SOAP

SANITARY CHEMICALS

Perfuming for sales...

AN appealing fragrance may represent the difference between sales success or failure of any toilet soap or cosmetic . . . UNGERER perfuming specialties, aromatic chemicals and essential oils have aided the sale of many nationally-known products for over a half-century . . . this experience is yours to command . . .

Consult... UNGERER!

May 1945

How NOT to do it

Don't gamble on customer appeal. It is of foremost importance. Launching a new product calls for special emphasis on what will appeal at the time of sale and use. If you gamble . . . you may lose.

The first and most important requirement is a properly fixed, fairly priced and full strength perfume raw material.

The resources of one of the manufacturers in the world who have never compromised with quality assure you of the finest perfume raw materials it is possible to produce.

We particularly call your attention to the following:

FLORANOL — A Single Chemical Used in Compounding Rose Odors

VERATRALDEHYDE
ISO BUTYL FURYL PROPIONATE
PARA METHYL HYDRATROPIC ALDEHYDE
PHENYL ACETALDEHYDE DIMETHYL ACETAL
HYDRATROPIC ALDEHYDE
CYCLAMAL
INDOL
IONONES

Also a full line of Aromatic Chemicals used for Perfumes—Soaps—Cosmetics

Requests for samples on your firm's letterhead and further information will be promptly furnished.

Aromatics Division

GENERAL DRUG COMPANY

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9 S. CLINTON STREET, CHICAGO 6 — 1019 ELLIOTT ST., W., WINDSOR, ONT.

Something New! Something Better!

ROX

Self-Polishing WAX

- Very Light Color
- Will Not Jell or Solidify
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- Non-Alkaline
- Contains no Resins, Shellac or Gums
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- High Abrasion Resistance
- Completely Water Resistant
- Tack Free in 20 Minutes
- Easily Removed with Cleanser or Strong Soap
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- Available in Three Grades: Super Heavy Duty Standard

ROX is *new* . . . *better* . . . a *different* wax offered to you only after long and thorough laboratory research and field test. Solids contain no resins, no shellac, no gums of any kind! Extremely stable . . . will not solidify or jell even if stored for long periods. Imparts a long-wearing, highly polished surface without buffing. Ask for ROX . . . for better jobs!

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Liquid Soaps, Floor Seals, Floor Treatments, Deodorant Blocks, Liquid Deodorants, Plumbing Specialties, Special Cleaners, Self-Polishing Waxes, Powdered Waxes, Oil Soaps, Liquid Cleaners, Disinfectants, Insecticides, Metal Polishes, Furniture Polishes, Deodorant Block Holders, Soap Dispensers.

B & Z Library

COUMARIN MONSANTO for bouquets that win praise

For bouquets that leave a pleasant memory, leading soapmakers and perfume manufacturers favor Coumarin Monsanto. Such fragrance often is a key factor in a product's popularity in the retail store.

Coumarin Monsanto, one of the purest chemicals known, is used even in the *whitest* soaps. Being readily soluble and always uniform in quality, Coumarin Monsanto is easy to blend into your product with uniform results.

Monsanto, the first American manufacturer of coumarin, offers you the superior product of years of research and manufacturing experience. Coumarin Monsanto and many of the raw materials that go into it are produced under our strict laboratory control. This is added assurance of uniformly high quality.

We shall be pleased to send you technical information and samples of Coumarin Monsanto. Please contact the nearest Monsanto office or mail the coupon printed below. MONSANTO CHEMICAL COMPANY, Organic Chemicals Division, 1700 South Second Street, St. Louis 4, Missouri. District Offices: New York, Chicago, Boston, Detroit, Charlotte, Birmingham, Los Angeles, San Francisco, Seattle, Montreal, Toronto.

MONSANTO PRODUCTS FOR FAVORITE BOUQUETS

Coumarin Monsanto
Ethavan (Ethyl Vanillin)
Methyl Salicylate Monsanto
Vanillin Monsanto

MONSANTO CHEMICALS
SERVING INDUSTRY...WHICH SERVES MANKIND

MONSANTO CHEMICAL COMPANY,
Dept. F-8, Organic Chemicals Division,
1700 S. Second St., St. Louis 4, Mo.

Please send, without cost or obligation, sample and data on Coumarin Monsanto.

*Name*_____

*Company*_____

*Street*_____

*City*_____ *Zone*____ *State*_____

Volume XXI Number 5

SOAP and SANITARY CHEMICALS

Reg. U. S. Pat. Office

MAY
1945

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. . . detect the difference

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Speeds Detergent Action in Hard or Soft Water

You can see the superiority of detergent compounds containing QUADRAFOS (Sodium Tetraphosphate — $Na_6P_4O_{13}$)... in the softness of textiles... in the stain-free brightness of metal equipment... in the sparkling cleanliness of glass containers.

QUADRAFOS strengthens the cleaning action of soaps, wetting agents and alkalies and prevents hard water deposits. A properly balanced QUADRAFOS formula gives clear solutions, eliminates scale formation, suspends soil, promotes fast, free rinsing. QUADRAFOS has proved its value in high alkali compounds for heavy duty metal cleaning . . . in both mild and acid cleaners for hand cleaning and for soft metals . . . in sterilizing rinses. QUADRAFOS will improve the performance of your products!

For recommendations on the use of QUADRAFOS in your compounds, write to our Technical Service Department.

QUADRAFOS GRANULAR —A white, free-flowing powder . . . Readily soluble and sized for convenient compounding with many detergent alkalies . . . 95% passes a 14 mesh screen.

QUADRAFOS 30 — A white, free-flowing powder . . . Very rapidly soluble . . . Preferred for finely powdered products . . . 95% passes a 30 mesh screen.

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Parmantheme

A truly remarkable synthetic version of the natural Parma-Violet note!

This Chuit, Naef specialty embraces all the most desirable characteristics of the ideal Violet basic note. It is non-irritating—*contains no methyl heptine carbonate*—very fresh and tremendously powerful.

PARMANTHEME can be used in any type toilet preparation, being particularly effective in lipsticks, creams and perfume extracts.

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IN THE PALM OF YOUR HAN

With D & O, "at your service" is more than just a hackneyed phrase . . . it's a *fact!*

Whatever perfuming problem confronts you, we are fully prepared to contribute our rich heritage of experience and the valuable services of our highly capable staff of research chemists, so that your problem may be promptly and accurately solved.

For over 145 years we have been "at the service" of the entire industry. Please feel free to call on us!

D & O
ESTABLISHED 1798

Dodge & Olcott Company

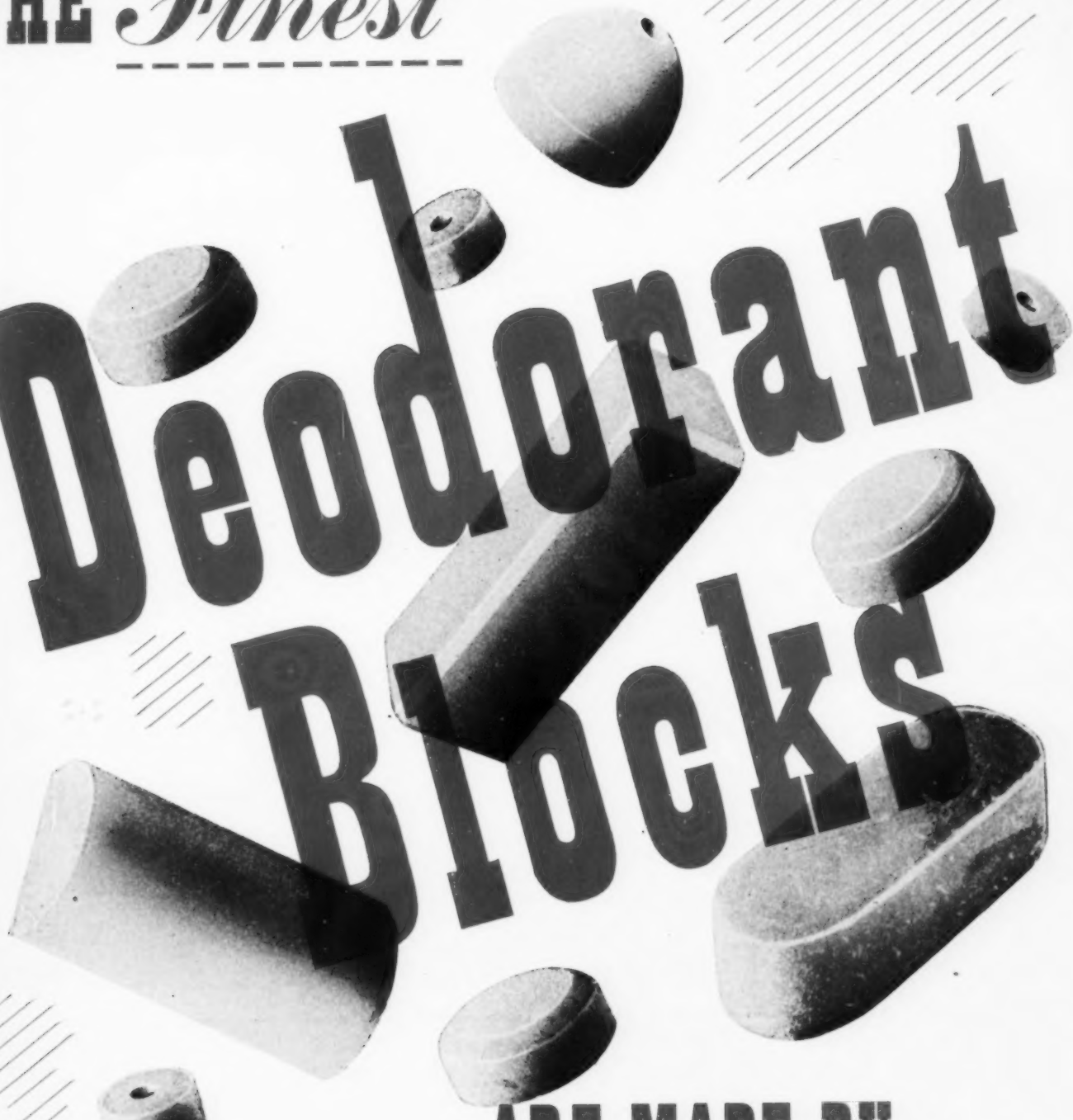
180 VARICK STREET, NEW YORK 14, N. Y.

BOSTON · PHILADELPHIA · CHICAGO · ST. LOUIS · LOS ANGELES

Plant and Laboratories: Bayonne, N. J.

THE *Finest*

Deodorant Blocks



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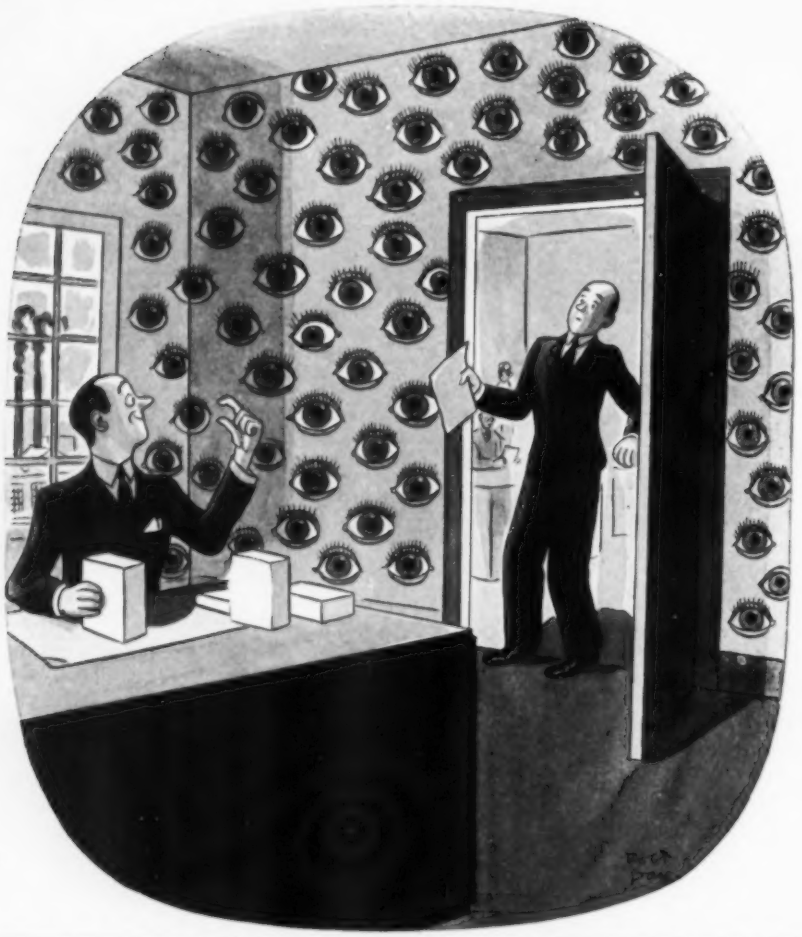
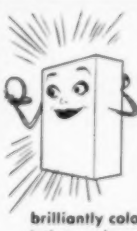


Wall paper suqqestion for the office of every foldinq carton user...

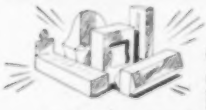
IT'S A GOOD IDEA to keep reminding yourself that the greater the *eye-value* of your package, the bigger the break it will get in tomorrow's self-serve stores and open displays. It will need that break. For impulse or pick-up sales already account for a tremendous volume. Tomorrow, it will be even larger.



EYE-CATCHING folding cartons start with the right board. And many of America's leading folding carton users will tell you that the "right board" is *Coated* Lithwite. They'll show you how brilliantly colors come up on this revolutionary board . . . how sharply product illustrations reproduce with a tempting, life-like realism that makes hands reach for them.

COATED LITHWITE is unusually white. Its surface is hard, smooth, free from chalkiness. Forms a perfect base for plates and inks. Its rich, velvety feel says *quality*. Add Gardner-Richardson's fine press work, precise methods, skilled plate-making, careful make-ready, thorough checking . . . and it all adds up to folding cartons that give your product a real advantage.

SIX YEARS of Gardner-Richardson experience and technical improvement are behind *Coated* Lithwite — the original paperboard, made and coated in one continuous, high speed operation. Manufactured to rigid G-R standards, *Coated* Lithwite gives eye-catching printing quality, folds and scores without flaking, takes a positive seal, speeds through filling machines.



GET STARTED, NOW. Find out how *coated* Lithwite can improve the eye-appeal of your folding cartons. Be ready, when new orders for *Coated* Lithwite *can* be filled (at present, we're sold up!) . . . to get the jump on your competition with a folding carton that does a better selling job, gives your product a shelf and display advantage. Put your problem up to our technical and merchandising specialists. They'll jump at the chance to show you what can be done with ingenuity, know-how . . . *and Coated* Lithwite. Write, today.

The GARDNER-RICHARDSON Co.

Manufacturers of Folding Cartons and Boxboard

MIDDLETOWN, OHIO

Sales Representatives in Principal Cities: PHILADELPHIA · CLEVELAND · CHICAGO · ST. LOUIS · NEW YORK · BOSTON · PITTSBURGH · DETROIT

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BACTERICIDE **GERMICIDE**
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BLEACHING AGENT **WATER SOFTENER**

Attractively packaged and attractively priced. Available in cases of 12 two-pound jars; cases of 4 twelve-pound cartons; 100 lb. drums and 350 lb. drums all with informative 3-color labels carrying data on uses and solution strengths.

Immediate delivery.

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New Scope

...e for New Ideas

WITH EXPERIENCE BY Givaudan-

Givaudan's long experience in the creation and development of countless perfume bases, odors and aromatic materials has provided a deep, broad reservoir of knowledge from which new ideas in perfume and cosmetics are constantly rising. During the war, Givaudan customers are benefiting by the creative help our staff is giving in adapting available materials to special demands. After the war, when traditional materials return and the range of opportunity for improvement increases, Givaudan will be ready with new experience to aid in the development of improved lines.

Call on Givaudan research to help you develop new lines and special new products. Our staff offers its skills and its specialized experience in every phase of creative work that concerns odors, aromatics and a host of other compounding materials.

"BUY WISELY...BUY GIVAUDAN"

Givaudan-Delawanna INC.

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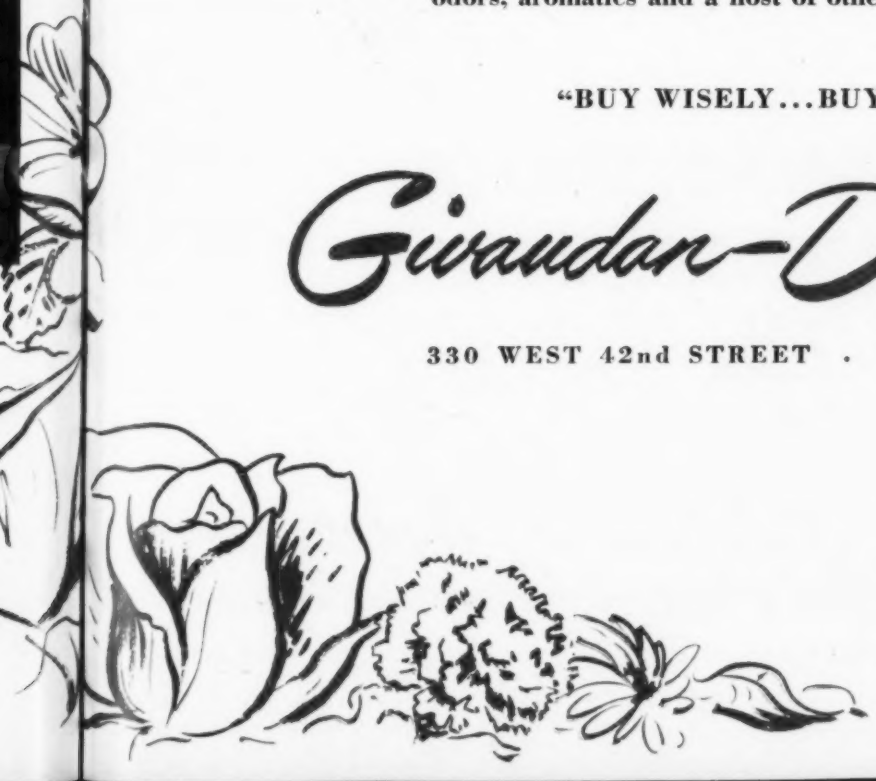

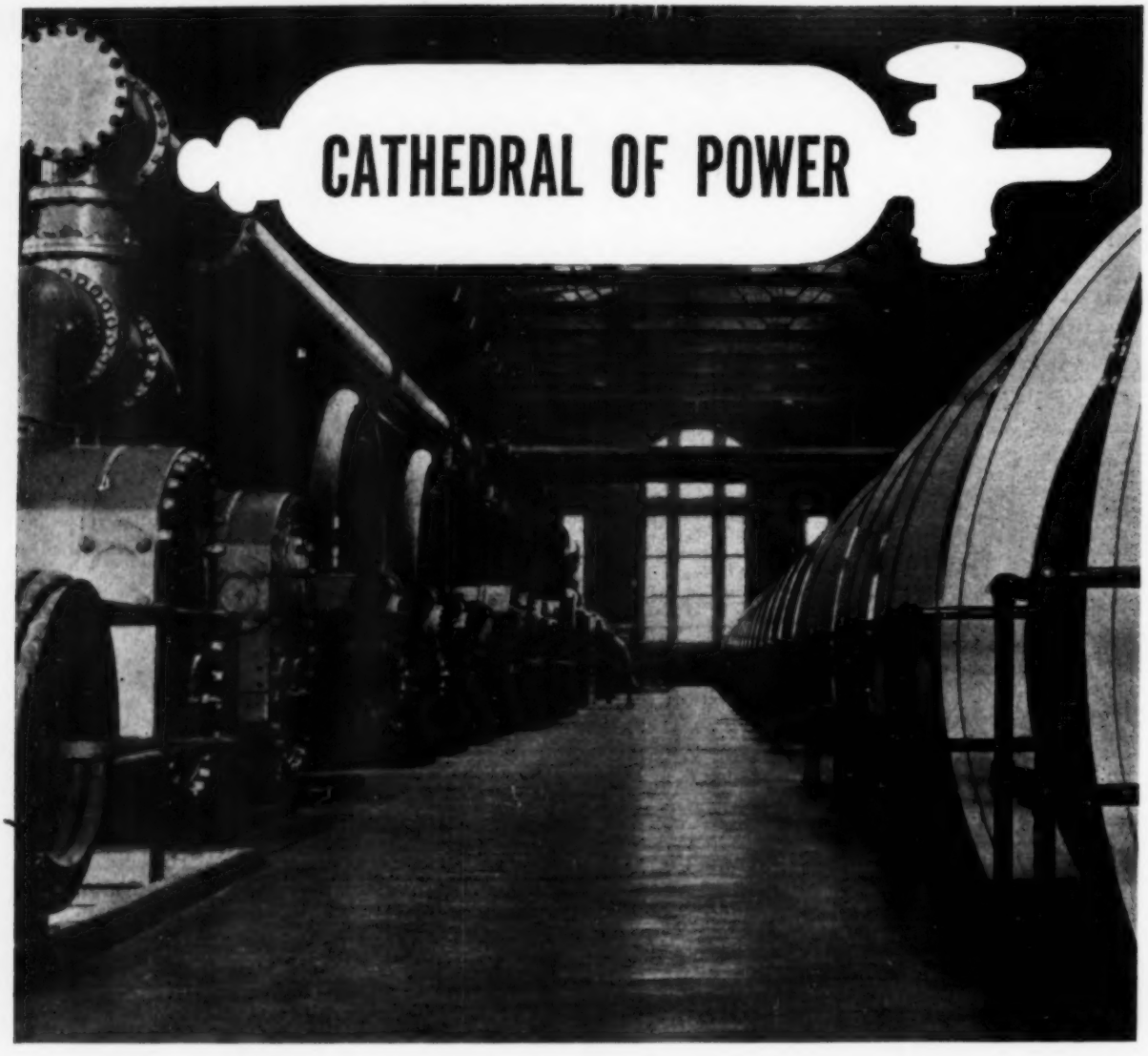

• Compressor room, North Plant, Wyandotte Chemicals Corporation, Wyandotte, Michigan. Heart of the processing operations, source of power, gas and air compression, vacuum, and pumping requirements of the North Plant, its shops and salt wells. Here originates power used to transform salt, limestone and coal into alkalies and chemicals.

WYANDOTTE CHEMICALS CORPORATION

ONE OF THE WORLD'S GREAT PRODUCERS OF CHEMICALS

SODA ASH
CAUSTIC SODA
BICARBONATE OF SODA
CALCIUM CARBONATE
CALCIUM CHLORIDE
CHLORINE
HYDROGEN
SODIUM ZINCATES
AROMATIC INTERMEDIATES
DRY ICE
Other Organic and Inorganic Chemicals

WYANDOTTE CHEMICALS CORPORATION
MICHIGAN ALKALI DIVISION • WYANDOTTE, MICHIGAN

Wyandotte
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VITAL TO VICTORY TODAY—READY TO WORK FOR A GREATER TOMORROW

JAVONELLA

Perfect for Perfuming

LAUNDRY SOAPS · WASHING POWDERS · LIQUID CLEANSERS · POLISHES, etc.

Even when Oil of Citronella was low in price and easy to obtain, JAVONELLA was a reliable favorite. A great many manufacturers preferred its finer, cleaner odor, its uniform quality and consistent economy. And now that Citronella is so high in price and difficult to get, JAVONELLA is more important to you than ever before.

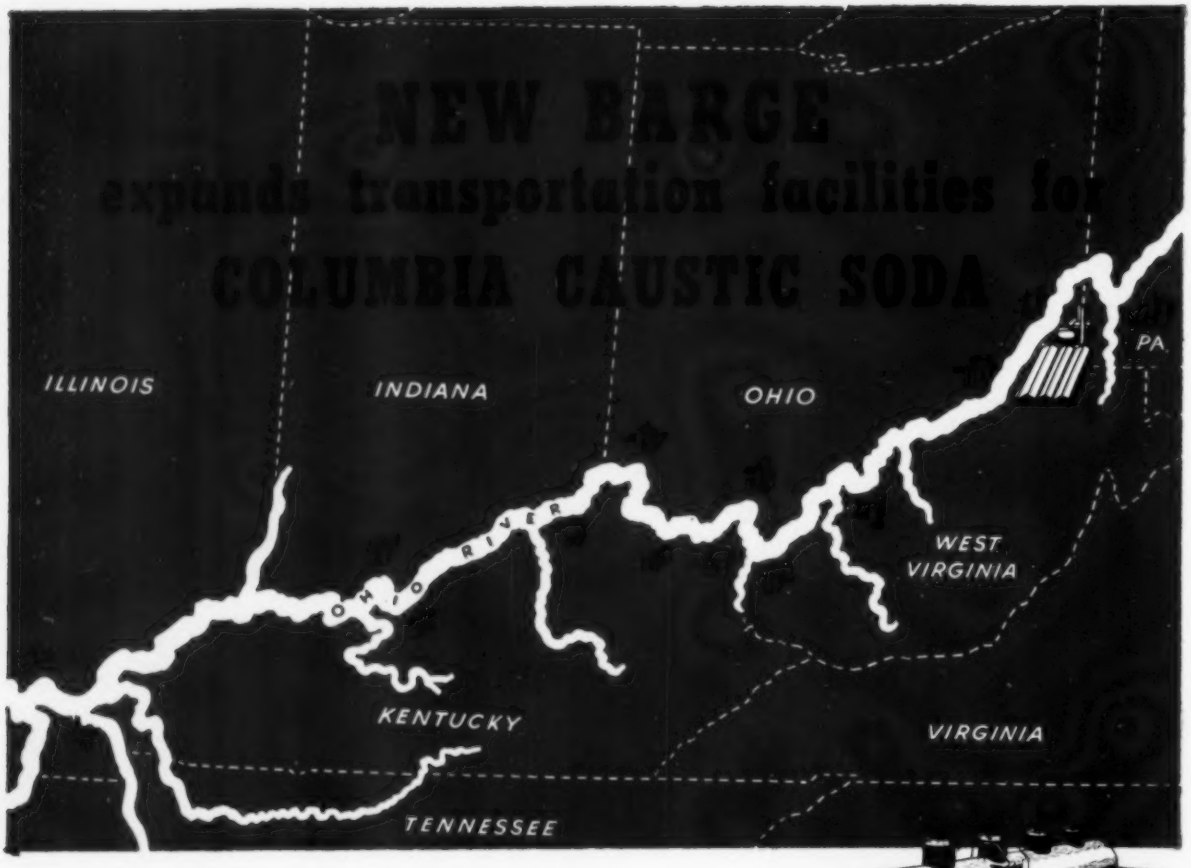
Write for Samples & Quotations

FELTON CHEMICAL COMPANY, INC.

599 JOHNSON AVE., BROOKLYN, N. Y.

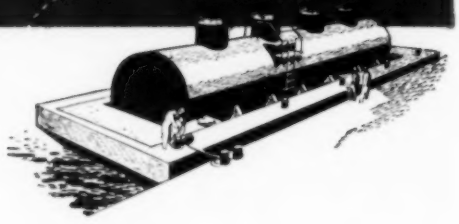
BRANCHES IN BOSTON · PHILADELPHIA · CHICAGO · ST. LOUIS · NEW ORLEANS
LOS ANGELES · SAN FRANCISCO · MONTREAL · TORONTO · MEXICO CITY

MANUFACTURERS OF AROMATIC CHEMICALS, ESSENTIAL OILS, PERFUMES AND FLAVORS



PIONEER in better transportation of heavy chemicals, Columbia now has in service a barge designed specifically to carry Liquid Caustic Soda. Each trip it makes releases many railroad tank cars—of utmost importance in serving the diversified war industries which are dependent on this chemical.

Columbia's barges for transporting Liquid Caustic and Chlorine now bring numerous areas within economical distance of one of the nation's greatest Caustic Soda—Chlorine plants. Manufacturers, whose processes require these chemicals in volume, may obtain important marketing advantages with plants located strategically in relation to our barge facilities. Information may be obtained on request.



Approximately 500 tons of Caustic Liquor can be transported in the huge welded steel tank of this 235-foot barge. Foamglas insulation protects the Caustic from freezing—a special lining prevents metallic contamination en route. Numerous other unique features are incorporated in the design of this barge. It is now in service from the Columbia operated DPC plant on the Ohio River at Natrium, West Virginia.

COLUMBIA CHEMICALS

PITTSBURGH PLATE GLASS COMPANY • COLUMBIA CHEMICAL DIVISION

GRANT BUILDING, PITTSBURGH 19, PENNSYLVANIA

Chicago • Boston • St. Louis • Pittsburgh • New York • Cincinnati • Cleveland • Philadelphia • Minneapolis • Charlotte • Los Angeles

COLUMBIA ESSENTIAL INDUSTRIAL CHEMICALS

Soda Ash • Caustic Soda • Sodium Bicarbonate • Liquid Chlorine • Silene EF (Hydrated Calcium Silicate) • Calcium Chloride • Sodium Silicofluoride • Caustic 76 • Pyrobisulfite • Calcene T (Precipitated Calcium Carbonate) • Calcium Hypochlorite

. . . She has her favorite . . . its consistent appeal is your sale. . . . Whatever it be, it must be uncompromised . . . faithful to her preference . . . definite and lasting . . .

There is no need for compromise with FLORASYNTH'S ESSENTIAL AROMATICS.

BERGAMOT
SYNTHETIC

is one of a proven practical line noted for its faithful reproduction of the natural products.

others are
Geranium Synthetic
Lavender Synthetic
Terpinyl Acetate
Citrosynth (Citronella)
Etc.

Florasynth LABORATORIES, INC.

CHICAGO 6 · NEW YORK 61 · LOS ANGELES 27

DALLAS 1 • DETROIT 2 • MEMPHIS 1 • MINNEAPOLIS 2 • NEW ORLEANS 13 • ST. LOUIS 2 • SAN FRANCISCO 3 • SEATTLE 4
Florasynth Labs. (Canada) Ltd. — Montreal • Toronto • Vancouver • Winnipeg Florasynth Laboratorios de Mexico S. A. — Mexico City

It Takes Silk to Make Silk Purses

Chemists have performed remarkable feats in overcoming shortages and have even gone so far as to make silk purses out of sows' ears. But it still takes quality materials to produce quality products. That's why chemists in the soap and sanitary chemicals field are depending upon Hooker Chemicals. Though they may not always be able to get all the Hooker Chemicals they would like to have, every shipment they receive is of the same uniform high quality that has been pleasing them for years.

Below are listed some of the Hooker chemicals used in your operations. More complete information and samples on these and other Hooker Chemicals are available when requested on your letterhead. Hooker's technical staff is also ready now, as always, to help you in the use of Hooker Chemicals.

PRODUCT Chemical Formula Molecular Weight	*HOOKER SPECIFICATIONS*	*USES*
Benzoate of Soda, U.S.P. and Tech. C_6H_5COONa; 144.0	Benzoate of Soda.....99% U. S. P. grade meets requirements of U. S. Pharmacopoeia XI.	Antiseptic in pharmaceutical and medicinal preparations, in tooth pastes and powders.
Benzoic Acid, U.S.P. and Tech. C_6H_5COOH; 122.1	Benzoic Acid, Min.....99.3% U. S. P. grade meets requirements of U. S. Pharmacopoeia XI.	Ingredient of cosmetic creams, lotions and other pharmaceutical preparations; antiseptics, dentrifices, dyestuff intermediates. Manufacture perfumes and pharmaceuticals.
Benzoyl Chloride C_6H_5COCl; 140.5	Freezing Point °C.....-0.9	Manufacture of synthetic organic chemicals through Friedel Crafts reactions to produce perfumes, dyes, pharmaceuticals. Manufacture benzyl benzoate and other esters.
Cyclohexanol (Hexahydro Phenol) $C_6H_{11}OH$; 100.1	Distillation Range High Grade.....4°C Max. Tech. Grade.....10°C Max. Cyclohexanol High Grade.....98% Min. Tech. Grade.....92% Min.	In manufacture of disinfectants, germicides and insecticides, perfume in soaps; solvent.
Methyl Benzoate (Niobe Oil) $C_6H_5COOCH_3$; 136.1	Distillation Range °C Max. 2° incl. 199° Ester Content.....99.5% Min.	Deodorizing material for soaps and in manufacture of perfumes.
Methyl Cyclohexanol (Hexahydro Cresol) $CH_3C_6H_{10}OH$; 114.1	Boiling Range °C.....Max.....25 Distillation °C...Start Min....155 100% Max....180	Perfume in soaps and to incorporate solvents and phenolic insecticides; solvent.
Orthodichlorbenzene (1:2 Dichlorbenzene) $C_6H_4Cl_2$; 147	Freezing Point °C.....-10 to -22 Boiling Range °C..10 including 180	Insecticide, solvent for natural and synthetic gums, tars, grease, oil, fats; ingredient of metal polishes, paint and varnish removers. Manufacture of pyrocatechin, dye intermediates, synthetic organics.
Sulfur Dichloride SCl_2; 103	Chlorine Content 66% Min.	Chlorinating agent, in manufacture of organic acid anhydrides and in organic synthesis.
Sulfur Monochloride S_2Cl_2; 135	Chlorine Content 50% Min.	Manufacture of insecticides, linseed oil substitutes, dye intermediates, pharmaceuticals, organic acid chlorides.

ARMY E NAVY

HOOKER ELECTROCHEMICAL COMPANY

Buffalo Ave. and Union St., Niagara Falls, N. Y.

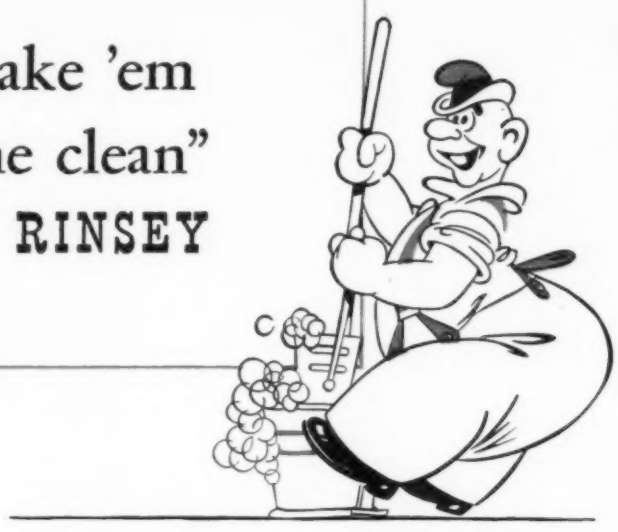
NEW YORK, N. Y. • WILMINGTON, CALIF. • TACOMA, WASH.

HOOKER CHEMICALS

Chlorine **Caustic Soda** **Ferric Chloride** **Muriatic Acid**
Sodium Sulfhydrate **Sodium Sulfide** **Paradichlorbenzene**

5217C

"I make 'em come clean" *says* RINSEY



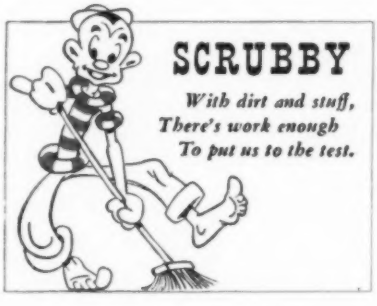
Rinsey's one of the "FLOORADORA BOYS." Singly, they're terrific — together, they're sensational. Give 'em a hand — turn 'em loose — and let 'em smooth things out for you.

"KINDLY LOOKIT how there's a great absence of dirt and stain on any expanse of floor which we Flooradora Boys have operated on.

"On the other hand you will no doubt take notice of a lustre more amazing than somewhat. You can dunk my head in my bucket if it's not a fact that we lads can zip out a job like this faster than any grade B job!

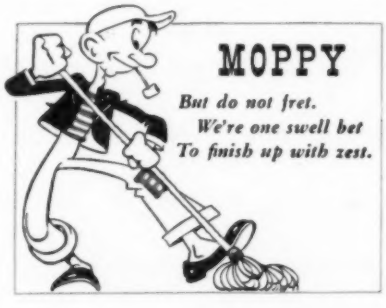
"*If,* mister . . . *if!* If you will kindly provide us artists with Davies-Young supplies, which are each of them fixed up to do a special job and do it better. Just ask the boss of any edifice where we've been in action with Davies-Young. *He'll* tell you! He'll say, 'Clip and mail that coupon!' "

• **BUCKEYE Liquid Scrubbing Soap** is for use on all surfaces that require a neutral soap to clean • **SANI-SCRUB** was developed particularly for cleaning rubber, rubber tile, asphalt tile, composition, mastic and cement • **FLOREX** is a balanced detergent, lower in soap content than Sani-Scrub • **NO. 30** is a neutral concentrate 30% to 32% anhydrous • **BEAMAX** is most effective in developing a protective lustrous film on all types of floor surfaces, after the floors have been prepared by the *right* type of Liquid Scrubbing Soap.



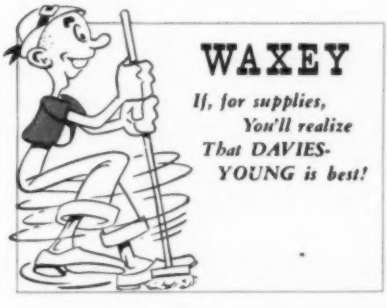
SCRUBBY

With dirt and stuff,
There's work enough
To put us to the test.



MOPPY

But do not fret.
We're one swell bet
To finish up with zest.



WAXEY

If, for supplies,
You'll realize
That DAVIES-YOUNG is best!

BUCKEYE • SANI-SCRUB • FLOREX • NO. 30 • BEAMAX

It is imperative that all floor surfaces be properly prepared for wax treatment by use of the above scrubbing soaps where their specific qualifications are required. Send for folder which gives complete information.

THE DAVIES-YOUNG SOAP CO.
DAYTON • OHIO

THE DAVIES-YOUNG SOAP CO.,
400 N. FINDLAY ST., DAYTON, OHIO

Please send folder on the treatment of floors and their proper maintenance.

*Name*_____

*Address*_____

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SOAP

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AS THE EDITOR SEES IT

A SUPPOSEDLY simplified method for hardship relief for manufacturers of lower cost soap products who are suffering a "price squeeze" has been set up by OPA. Manufacturers who find it impossible because of higher costs to produce certain soap items except at an actual loss may appeal to OPA for increases in ceiling prices, according to an amendment to MPR 391. Individual price adjustments for lower cost soaps follow the new policy of OPA of upping ceiling prices where production of common necessities is believed to be threatened by "price squeezes."

Doubt is expressed that amended MPR 391 will aid those small soapers who have watched both material and labor costs rise steadily over the past two years while their ceiling prices for finished soaps have remained fixed. That some action by OPA has been sorely needed, none will doubt. The output of lower priced soaps by local manufacturers in all parts of the country, and particularly in critical labor markets, has been threatened for some time. But opinion insists that this "simplified" method of relief is still too complex to solve the problem.

THE rate at which glycerine stocks in the United States are shrinking under present heavy consumption is beginning to worry WFA officials who have this important commodity under their jurisdiction. Not that reserve stocks have fallen to what might be considered a dangerous level, but merely the rate at which consumption is now exceeding production has focused closer attention on the product. At the present consumption levels, and without any increase in production, glycerine reserves would require something over a year to reach exhaustion. To government officials, this is not too great a reserve. To refiners, any such reserve tonnage is a very serious threat in case of a termination of hostilities. With the end of the war in Europe in sight, refiners would much prefer to see a further reduction in stocks and welcome the present high consumption rate. But WFA, if the decline in stocks continues, is likely to begin returning to consumption restrictions.

WITH each passing month, the supply of available machinery and equipment, especially used equipment of all sorts, continues to shrink. Difficulties in obtaining new equipment are likewise no secret, most types simply being unobtainable by manufacturers not engaged in war production. Manufacturers seeking to replace worn, damaged or wholly obsolete equipment are not alone at their wits ends, used machinery dealers as well having reached a stage of hopeless resignation. As a consequence, much equipment which five years ago would have been considered fit only for the junk heap continues to rumble along its obsolete way, wasting thousands of man-hours daily.

But what can be done about it? Most plans for machinery modernization and replacement are not going to get too far before the war is over. Limited amounts of new equipment are being delivered for ci-

vilian production, but the great bulk is still going into war work. A wider search for used equipment as a temporary replacement would appear to be the only answer. And we have a hunch that in almost every plant in the country, there is somewhere hidden away in a corner, in a warehouse or a storage shed some piece or pieces of equipment which are not being used and are not likely to be used. Or there are idle tanks, kettles, boilers, and the like badly needed by some other manufacturer right now.

Why not go over your plant in a systematic search for idle or unneeded equipment? You can sell it now at a price which will go a long way toward the cost of a new modern replacement when the war is over. Call in a used machinery dealer. He may be searching for the very piece of "useless" equipment gathering dust and taking up floor space in your plant. Now is the time to dig out and sell every single last piece of surplus equipment and at the same time help out some other manufacturer in dire need. A year or so hence when new equipment is available, you may not be able to unload these old mixers, kettles, pumps, filling machines, *et al* at any price.

A SWARM of locusts is about to descend upon us! We know the signs. These pests will be in the form of dozens and even hundreds of individuals and small firms who buy up surplus government materials as well as other surpluses, and then search about for a place and means to sell their purchases at a profit. Although they may be in the junk, lumber, underwear or fur business, they will not hesitate to buy both large and small lots of detergents, soap specialties, cleaners, oils, waxes, and the like. The fact that they are wholly unfamiliar with the market for the products which they buy and may not have even a remote idea of their uses does not faze them a bit.

Often we have been amazed by the gall of these surplus commodity hounds pushing themselves into industries and products where they obviously do not belong. And we have decided that henceforth we will have none of them around here.

SHOULD all conventions become permanent war casualties? Throwing his Sunday punch squarely into the belly of the convention idea, John Love in a recent issue of *"Printers' Ink"* decides that any and all such should be abolished for good. He says that conventions are a habit and seldom "a sheer necessity," and tells about "hardened attenders." He hints at but does not mention specifically those who get themselves cockeyed drunk at night and sleep all day during the meetings. He holds that all in all the convention is an excresence and at best should only be held once every five or seven years.

Maybe Mr. Love has recollections of an American Legion Convention, or happened to be in Dubuque when the Iowa plumbers' helpers held their annual soiree, and couldn't get a room. Something has soured him on conventions. But over the years, we have attended hundreds of these gatherings, some good, some bad, some just excuses for refined brawls. We feel that from good conventions much good has come over the years, to individuals, to companies and to whole industries. We could cite Mr. Jones a list of these latter as long as his arm. We know that the convention idea has been abused and that it has no place in the scheme of things today. But under normal conditions, we feel that the good accomplished is often considerable and that some conventions, not all, are definitely worth while. The convention in business has something of the function of color in advertising, neither, as Mr. Love would say, being a "sheer necessity."

Pros and Cons of

Toilet Soap Irritation

By Milton A. Lesser

IT IS recognized that toilet soaps are capable of causing skin irritation in some individuals. Nonetheless the tendency to overemphasize the so-called "soap problem" to the detriment of these most important cleansing agents is something that should not remain unanswered. That soap may constitute a dermatological problem for some persons does not hide the fact that it still remains the outstanding safe cleanser for the skins of the overwhelming majority of people.

The myth that "soap is bad for the skin" should be relegated to the limbo of the colonial, backwoods lye pot where it belongs. Despite the universal acceptance of factory-made, scientifically controlled toilet soaps (1), some writers, either through ignorance of the facts or deliberate intent, continue to perpetuate this fear for the complexion. Although men aware of the facts are careful to differentiate between toilet soaps and other types of cleansers, there are those who lump all such materials under one category regardless of whether they contain high proportions of abrasives, fillers, alkalis and the like and regardless of whether these products are intended for the skin or not. As remarked by Kooyman and Snyder (2), soap varies in kind as well as in composition, from the milder toilet bars to the heavy duty laundry products. The superiority in mildness of good toilet soaps over strong powders and granules used for laundering is generally realized and accepted.

These two investigators also point out that in view of the universal exposure of the human skin to soap and the low incidence of true irritation due to soap, it is evident that soap must be classed as a very mild primary irritant. Similarly, Lane and Blank (3), in their comprehensive review of cutaneous detergents, note that soaps are efficient, cheap and satisfactory cleansers, except for the relatively few persons who are appreciably irritated by soap. Sharlit (4), another student of the subject, states that the overwhelming majority of people with healthy skin find the average toilet soap a completely safe and effective cleanser. One leading journal (5) devoted to the problem of industrial medicine estimates that at least 95 per cent of people do not need any special kind of soap, and it is stated that any good toilet soap is suitable for use by factory workers.

However, it must be realized that there are occasionally some persons who experience discomfort after using a particular type of soap. Further investigation often reveals that such people have dry, rough skins, with lowered functioning of the sebaceous glands. These are characteristics which may depend upon congenital factors or may be due to advancing years (2). In older persons, the tendency to true dryness of the skin is not uncommon and in severe cases older people must actually dispense with the use of soap. However, it is rare to find an otherwise normal young person whose skin will not tolerate soap (6).

Relatively uncommon in the summer, skin irritation from soap is more likely to occur in the winter, especially with city dwellers who live in overheated, dry, stuffy apartments. Usually mild and transitory, such irritations are sometimes referred to as "bath itch" or "winter itch." It is known that prolonged exposure of the face and hands to the effects of the sun, wind or a cold, dry atmosphere may increase the sensitivity of the healthy skin to such a degree that the use of some soaps will cause a burning sensation. Under such conditions any tendency to irritation will be exaggerated. Another important consideration is the fact that the frequent and prolonged use of soap, as is the case with doctors, nurses, laundresses and dishwashers, may result in hyperirritability of the skin. It is well to remember that in many of these instances the resulting dermatitis may not be attributable to soap alone but also to infections caused by bacteria, yeast or fungi.

Depending on the individual sensitiveness, frequency and length of exposure, and various other factors, the degree of irritation produced by soaps may vary considerably. Thus the unfavorable response may be nothing more than a mere tingling sensation or a mild, temporary itch. Reddening and roughness of the skin will indicate a more marked reaction. At other extreme, the undesired reaction to soap may be manifest as an eczema-like condition of the skin.

Because even the high grades of toilet soap now available can cause such reactions under certain circumstances, research into the causes should eventuate in the creation of further improved cleansers. In some instances such studies, as well as the natural competition among soap producers, have led to modifications in processes and

raw materials to the betterment of toilet soaps in general. In studying the causes of skin irritation many factors have been held responsible by various workers. Some say that toilet soaps are unfriendly to the skin because they rob it of its fat, while others claim that soaps destroy the skin's naturally acid "mantle." Dyes and perfumes used in soaps have often been held responsible for the irritative effects.

It is known that all soaps in aqueous solution undergo hydrolysis to some extent and are thus split up into free alkali and fatty acid (7). It is therefore understandable why much of the current investigations are centered about alkalis and fatty acids. Unfortunately the various tests upon which current concepts are based leave very much to be desired.

THE most widely used procedure, the patch test, depends upon the dermal response obtained when a soap solution is kept in contact with the skin for a certain length of time. Most such patches used in dermatologic tests are of fairly simple design. However, many unusual and rather intriguing devices have been designed from time to time, each with the claim of overcoming some or all of the large number of variables that enter the picture. According to Kooyman and Snyder (2), the ideal patch for testing soaps should keep an adequate volume of solution in intimate contact with the skin, permit little evaporation, allow for normal blood circulation in the skin and cause a minimum of discomfort and inconvenience to the patient. Other factors, like the correct concentration of the soap solution, the length of time it is to remain in contact with the skin, the most suitable dermal areas for applying the patches, and the effects of irrelevant mechanical factors (e.g. pressure, stretching of the skin, and removal of the adhesive plaster holding the patch), also require much consideration.

After viewing the facts, Lane and Blank (3) came to the conclusion that the regular patch test must be considered of questionable value in diagnosing a dermatitis which follows the use of soap, especially in view of the fact that no standard technic has been agreed upon. In their opinion, none of the modifications of the regular patch test are satisfactory. Similarly, Jordon and his associates (7) have found that patch tests are of very limited value, since it is impossible to duplicate by such means the actual conditions of contact. Such factors as the degree and frequency of exposure, which are of paramount importance when soap dermatitis occurs, cannot be duplicated by patch tests. They therefore discontinued patch tests as a routine diagnostic measure in suspected cases and now depend on the case history and clinical observations.

The lack of dependable, reproducible results due to the inability to control the variable factors of the patch test has led workers to devise other methods for studying soap effects. Kooyman and Snyder, (2) for example, employed a so-called "arm immersion test." Damrau (8) used a very delicate means of determining soap irritativeness by instilling dilute soap solutions into the conjunctival sac of the rabbit's eye. Edwards (9) studies the action of soaps on red blood cells and earthworms. Using purely physical methods, Sharlit (4) has attempted to study soap's effects by dialysis through "gut" and collodion bag membranes.

The approach to the problem of soap irritativeness via these various avenues has resulted in some positive information but has also indicated that a good deal must yet be learned and clarified.

Toilet soaps hydrolyze in water to produce an alkaline solution, even when there is no excess free alkali in the soap. Because alkali is known to react chemically with the skin keratin, it seemed logical to some investigators to assume that such alkali in soap might injure the skin. This assumption has since been proved incorrect. Pillsbury and Shaffer (10) have shown that no marked reactions occur until a pH of about 12.8 is reached. Few, if any, soap solutions produce such a degree of alkalinity. Klauder and his co-workers (11) determined the pH of a 1 per cent aqueous solution of 36 toilet soaps and found the range to be from 9 to 11. Using a similar solution, Sharlit (4) tested many toilet soaps and found that all of them had a pH range between 9 and 10.

Since this range of alkalinity is too feeble to act as an effective keratolytic agent during the momentary exposures required for ordinary cleansing of the skin, Sharlit expressed the view that damage will occur only if the alkalinity is transmitted through the horny surface of the skin to the epithelial layer below. Using dialyzing membranes to simulate the horny layer, he showed that even after dialysis for 18 hours all toilet soap solutions failed to communicate the full strength of their alkalinity through the membrane.

Opposition to the alkali theory of soap irritations is not especially new as is evident in the reports of Stauffer (12) in 1931 and of Jordon and his associates (13) in 1936. More recently, Klauder, Gross and Brown, (11) after an extensive study of cleansing agents, expressed the view that, in spite of the statements in the literature to the contrary, they did not believe that the alkalinity of soap, as such, acts as a skin irritant. Cake soap, they pointed out, is not sufficiently soluble to allow the alkaline salts contained in it or indeed any other ingredient in sufficient concentration in the soap solution to act as a primary cutaneous irritant. "Excluding all soap in powder form that contains alkaline salts," they stated, "the role of soap used for toilet purposes as an eczematogeneous substance has doubtless been exaggerated, in view of its universal and frequent use, the dilute solution of soap and its ingredients."

At about the same time, Emery and Edwards (14) demonstrated that the alkalinity released when soap was hydrolyzed was not the cause of soap irritation.

From all of these studies it would appear quite unlikely that the alkali alone is the iritating factor of soap.

THE other half of the soap hydrolysis picture, the part concerned with the release of free fatty acids, has also received considerable attention. The oils most commonly mentioned as

"The best cleanser," reports the Council on Occupational Dermatoses of the A.M.A., "is a mild toilet soap and plenty of warm water." Though there may be occasional persons whose skin is hypersensitive to soap, it is probable that uniformed "authorities" have tended to overexaggerate the role of soap as a possible skin irritant.

capable of producing irritant soaps are cottonseed, coconut and palm (14). Various workers have made studies of individual fatty acids to test their irritant potentialities and to make recommendations with regard to their proportions in soaps.

In his experimental studies on earthworms, for example, Edwards (9) found that sodium laurate is the most irritating; with other fatty acids displaying decreasing effects in the following order: sodium myristate, sodium oleate, sodium ricinoleate, sodium palmitate and sodium stearate. Later, in studies employing a modified patch test, it was determined that lauric and myristic acids, by far, produce the most iritating soaps and are approached only by the soaps of n-capric and linoleic acids. In these tests, females proved more subject to irritation from soap solutions than males (14, 15).

The studies of Blank (16), which are often cited by other workers, showed that the irritating qualities of the fatty acids decrease with an increase in the molecular weight. He further showed by a special patch test technic not only that the low molecular weight fatty acids are more irritating than the high molecular weight acids but that many of the fatty acids commonly present in soap become more irritating in the presence of small amounts of alkali. On the basis of this information, he concluded that neither the alkali alone nor the fatty acid alone is the causative agent in soap irritations but that each has some part to play.

Because coconut oil is especially rich in these lower weight fatty acids (e.g. lauric and myristic acids), some manufacturers have been prompted to keep the proportions of this oil lower than 20 per cent in the production of toilet soap. Others have advised this proportion as suitable for such soaps, but on occasion some workers have suggested a reduction to as low as 10 per cent (14).

It is significant, however, that some authorities do not consider the role of fatty acids in quite the same light. Lewkowitsch and Warburton (17) have said that the quantities of free fatty acid liberated after soap hydrolysis are infinitesimal. Other workers attribute the iritation due to individual fatty acids as a form of allergy on the part of the sensitive individual. Indeed many writers have discussed the possibility that the differences in the skin may be an important contributing factor to soap irritation (14). Sharlit (4) cites the fact that the medical literature records many instances of soap dermatitis due to sensitivity to specific fatty acids in soaps. These soap allergies, he observes, are in the same category as the conditions arising from the perfumes in soaps. That some individuals react abnormally to certain perfume ingredients employed in soap is so well known as to hardly require comment, but that similar reactions may occur with some fatty acids is significant in that it may serve to explain many cases of soap irritation.

Prolonged exposure to soap solutions is undoubtedly an important contributing factor in some cases of irritation but it is to be doubted that it looms as important as some types of advertisements would lead one to believe. In this connection, Lane and Blank (3) have remarked that in the group which has excessive exposure to soap (e.g. housewives, domestics, dishwashers, laundresses) relatively few manifest skin inflammation of sufficient intensity to cause them to consult a physician. They feel that many soap irritations, even in individuals who use excessive amounts of soap, are the result of hypersensitivities. Of pertinent

interest is Klauder's (18) observation that dermatitis results after continued exposure to soaps either because the threshold of the skin to irritation from the alkalies liberated on hydrolysis is decreased or because of an allergy.

THE question of allergy or hypersensitivity is becoming more important in efforts to explain many undesired reactions to soap (7). Allergic individuals, it should be remembered, react to substances to which they are sensitive in a manner different from that expected with normal persons. However, Lane and Blank (3) are of the opinion that these allergic soap hypersensitivities are acquired because most dermatologic troubles from the use of soap do not start until after adolescence. They cite Goldman's (19) work which showed that new-born infants do not show positive reactions to patch tests with soap. The histories obtained from almost all patients who seem to show a dermatitis from soap indicate that the skin condition developed after relatively long contact with soap in general and, even when the history points to a single soap as the causative agent, the dermatitis usually appears only after the cleanser has been used several times.

In discussing the possible existence of true allergy to soap, Kooyman and Snyder (2) are of the opinion that pure soaps do not act as sensitizers but only as weak primary irritants. Sensitization, if it occurs at all, is believed to be caused by materials added to the soap, like dyes, perfumes, pigments and preservatives. "Since the use of soap is so widespread and since soap and water occasionally have an unfavorable effect on an unrelated existing dermatitis," they state, "it is highly probable that soap has been indicted as a cause of many dermatoses with which it has no direct causal connection."

The role which hard water and its dissolved salts may play in the causation of toilet soap irritations is still open to debate. Although Goodman (20) has said that hard water actually irritates the skin of some people and that long immersion in such water leaves the skin very dry and with a tendency to fissure, other authorities (3) do not believe that water, by itself, either hard or soft, has any harmful effect on the skin.

However, hard water is usually used in conjunction with soap, under which conditions insoluble calcium and magnesium soaps are precipitated on the skin. After a series of studies based on patch tests Parkhurst (21, 22) concluded that these "metallic" soaps formed by toilet soaps in hard water do not irritate the normal skin. Others, however, are of the opinion that such precipitated soaps have a tendency to make the skin feel dry as well as causing other undesired effects (3, 23). They may also play a part in the effects caused by alkalies or fatty acids.

As has been indicated previously, much still awaits to be learned concerning skin conditions said to result from soap. As summarized by Lane and Blank (3), "The actual pathogenisis of a dermatitis from soap is not yet known. Though both the alkali and the fatty acid fraction play some role in producing a dermatitis, the mechanism is probably not that of a simple chemical reaction between either substance and the skin. Penetration of at least the stratum corneum may be important, as may also some alteration in the physiology of the skin, though nothing specific is yet known of either of these factors. The final classification of a dermatitis from soap must await a better understanding of its pathogenisis."

As things stand at present it would appear that toilet soaps are often blamed for irritations for which they are not primarily responsible. This does not preclude the fact, however, that there are some individuals who cannot tolerate even the pure mild toilet soaps now available. Certain skin diseases, more particularly eczema of the hands, monelia infections and certain irritable or widespread dermatoses, are aggravated by soap and water and under such conditions the use of soap is to be avoided (10). In many skin diseases which are not initially caused by soap, its continued use may nonetheless make worse or prolong the duration of the dermatitis (3).

Conversely, it must not be forgotten that toilet soaps are used in the treatment of many skin diseases to remove crusts and foreign matter from the surface in order to clear the field for the effective application of suitable medicaments (10, 22, 24). Surgeons scrub both their own hands and the operative site with soap to remove bacteria and the efficiency of this procedure is well appreciated (25, 26). The value of white toilet soap in treating wounds and burns would also indicate that physicians find little to fear in these mild yet efficient cleansers (27).

Where soap is contraindicated, a soap substitute may be needed. Nonetheless there are those who feel that in many cases no such substitution may be required but rather reeducation in the proper use of soap (28). Parkhurst (21, 22) feels that plain toilet soaps are not likely to irritate if one follows the proper washing technic. Despite many years of practice, this dermatologist says that he has had very little experience with soap substitutes because he has encountered no case in which they were required. Others, like Sharlit (4), are strongly opposed to the use of certain soap substitutes on the basis that they may increase the incidence of certain skin disorders.

Those who would disparage toilet soaps should be reminded that, even though they may cause irritation for a few individuals, they are unexcelled as cleansing agents and that their hygienic value in helping to prevent the spread of disease makes them indispensable for daily use. As pointed out in the important report of Council on Occupational Dermatoses of the American Medical Association (29), "The best cleanser is a mild toilet soap and plenty of warm water."

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COCONUT OIL...

what are the prospects of early resumption of shipments from the Philippines of this important soap ingredient?

*By John B. Gordon**

Bureau of Raw Materials
American Vegetable Oils and Fats Industries

AT THE time of the Japanese invasion the Philippines had about one hundred and twenty million coconut trees, of which in excess of one hundred million were bearing. The annual copra producing capacity of these trees was eight hundred thousand tons. The Philippines were the world's largest producer of copra.

Leyte and Samar, two of the islands of the twenty-two which the forces of General McArthur have occupied in whole or in part, produce eleven percent of the total production of the Islands, which would be eighty to ninety thousand tons. This is a lot of copra in this day of short supply when we must scour every atoll of the South Pacific to supplement what the British can let us have from Ceylon.

Philippine copra was crushed in prewar days both in the Philippines and in the United States. Since the Philippine mills have been destroyed our present efforts must be directed towards bringing copra from the Philippines to the mills in this country, which are mainly located on the West Coast. The crushing capacity of these mills is only about one-third occupied in the crushing of copra. Much of their equipment is, therefore, standing idle.

Coconut oil has in itself numerous essential uses in the war effort. The supplies are allocated by the War Food Administration. First priority on the use of coconut oil in the United States is given by the WFA for use in the following channels:

1. Synthetic rubber program. This program utilizes a sizable quantity of coconut oil for the manufacture of mercaptan, one of the important ingredients of synthetic rubber. There is no approved substitute.

2. In the Chemical Warfare Service. This is an important secret use.

3. In the manufacture of hydraulic brake fluid for airplanes. The exact manner in which utilized is a military secret.

4. As a plasticizer in the manufacture of superior non-clouding at low temperatures safety glass for airplanes, tanks, trucks and automobiles. It is also used as a plasticizer in cellulose acetate molding powder for the manufacture of auto, truck, airplane, tank and radio parts.

5. As an additive in processed form for lubricants. From the coconut oil are produced certain higher alcohols, which in turn are used as film strengthening agents for high pressure Diesel engine lubricants. This film strengthening greatly increases the efficiency and utility of the oil.

6. In synthetic resins. One of the important uses of these resins is in the production of the lining for food containers, the use of which is indispensable in view of the current shortage of tin.

7. Insecticides and germicides. The Navy has a germicidal program which calls for the use of quaternary amines made from coconut oil in the production of germicides known variously as Navy Germicide, Tetrosan, etc.

8. For use in the flotation process in the mining of materials such as potash. The mineral is dispersed in water. Coconut oil in processed form (quaternary amines) is added. The bits of rock and other foreign material are buoyed up by air bubbles introduced from the bottom of the container and can be skimmed off along with the supernatant foam. The function of the processed coconut oil is to act as a surface agent and by removal of the surface film to permit of a more complete separation of the potash from extraneous materials than would otherwise be possible. Coconut oil in processed form is also employed in the flotation process in the mining of molybdenum.

9. Rubber substitute. Coconut oil has an important use as a plasticizer in the manufacture of rubber substitute of the poly vinyl chloride type of resin.

10. In vulcanized rubber goods such as tires. Lauric acid produced from coconut oil is employed in the production of zinc laurate, which is used to shorten materially the vulcanizing process in the production of automobile tires.

11. Coconut oil is employed in the production of sulphonated higher alcohols, which in turn are employed in such important uses as:

   a. Wetting agents for use in the paper and pulp industries;

* (Based on an address before Advanced Seminar of Department of Research of the Army Industrial College, Pentagon Building, March 15, 1945.)

b. In dyeing agents for textiles and leather;
c. In electroplating;
d. In insulating material.

We estimate that 35 to 40 percent of the coconut oil imported into the United States in 1945 will be allocated by the War Food Administration for the above uses.

COCONUT oil, aside from its specific uses in the war effort, is of further importance in that it yields approximately 40 percent more glycerine per pound of oil than any domestically produced fat or oil. Since the adequacy of the over-all fat and oil supply is at a critical state, this may become an important factor even though the present supply of glycerine is satisfactory.

The needs for glycerine in substantial quantities include:

(a) Lend-lease requirements for cordite, blasting powder, and explosives.

(b) Dynamite for mining iron for steel, copper, nickel, tungsten, molybdenum, etc.; protective coatings on ships, tanks, etc.

(c) Indirect war requirements such as explosives for mining coal, medicinal and drug supplies, protective coatings of all kinds, plasticizers, and innumerable others.

In the past coconut oil has been a source of approximately one-quarter of the glycerine produced domestically.

While 35 to 40 percent of the coconut oil imported in 1945 will go to the eleven uses discussed, the remaining sixty to sixty-five percent will go into the manufacture of soap. Soap in itself is of transcendent importance in the war effort. Not alone for its use by the military in the preservation of the bodily health and well-being of men under arms and as a part of the Army's Disease and Unrest Operational program behind its lines in occupied areas is it essential, but it performs the same function of preserving bodily health and well-being for the home population, which must produce war supplies and munitions.

Under present circumstances, people are living in very crowded conditions. The hospitals are full. There is a shortage of nurses. If any serious soap shortage should develop it would be possible for an epidemic to get started that could have very serious consequences to the whole war effort.

It is to be expected that soap consumption is greater than it would be normally as a result of the large increase in urban populations and the greater number of people working in dirty industries. Surveys made show that the per capita soap consumption in urban areas is considerably larger than that in rural areas. The kind of dirt in the city requires more soap to remove than the dust and mud on the farm.

We believe that the Government, in letting the supply of soap run short, is taking a risk that it has no business taking. The extra amount required to make the soap supply sufficient is so small in the over-all fats and oils supply in the country that the risk is just not worth taking.

Over-all oil and fat supplies in the United States are admittedly short. There is not enough to supply the needs for military, Lend-Lease, civilian and relief purposes. We are approaching the predicament of an army which has exhausted its reserves. The time to correct this shortage is immediately at hand. It would be most unwise to delay.

IN THE soap field alone there is a deficit of two hundred million pounds of fats for the production of what is an adequate supply of soap for military, Lend-Lease and relief purposes, with sufficient left over for civilian use. There is no domestic or foreign source of supply from which this deficit of two hundred million pounds of soap making oils and fats can be supplied. But it can be supplied from the Philippines.

Leyte and Samar alone can supply one-half of the deficit in the form of copra, from which coconut oil can be produced. Others of the remaining twenty islands of the Philippines which we have recaptured wholly or in part can supply the balance if we exert our energies towards getting the copra out.

The Filipinos have been systematically robbed by the Japanese.

While the United States Marines are winning bases in the Philippines for the eventual attack upon Japan, they are also incidentally winning back our pre-war sources of coconut oil. →

They need food, clothing, shoes, medicines and other supplies. We cannot provide these free and that is where copra comes into the Filipino rehabilitation picture. The quickest way to get some economic plasma into the veins of the Philippine economy is through the purchase of their copra. Insofar as its importance as a cash crop is concerned, the coconut industry is the most widely diffused of all cash crop industries of the Philippines. While under peace time conditions it ranks second to sugar in money value, under present day conditions it takes first position due to the fact that the coconut industry has been subjected to the least injury of any of the Islands' cash crops. The Japs have destroyed the Filipino's factories, destroyed his sugar centrals, stolen his livestock, but they haven't taken time to destroy his coconut trees. They are still there.

Sugar is a two-year crop and the plantations will require re-planting whereas the coconut trees are standing and the facilities to produce copra, the raw material for the production of coconut oil, are immediately available on every farm in the Philippines. Practically every Filipino farmer owns at least one hundred to two hundred coconut trees. He can start producing copra at once. His own labor and that of his family will suffice to produce copra, and the common complication which arises when Filipino labor is moved from places where it is self-sustaining in respect to the production of food does not arise to the same extent in this instance. Each farmer has his factory at his doorstep and the necessary labor in his household. He commonly produces on his farm foodstuffs sufficient for the maintenance of himself and family, except that it is necessary to supply him rice unless he happens to be located in a rice producing area.

The Filipino guerrillas made a good fight against the Japs. The Filipino population as a whole has proven itself to be good Jap haters. We need their copra for utilization in the war effort. I say, let us turn to and help them get it aboard some of our ships which are returning in ballast from the Philippines. It isn't even necessary to delay the departure of a ship to get it aboard, as the common procedure is to load copra from barges on one side of the ship while cargo is being discharged on the other side.

THE Foreign Economic Administration has a directive from the Office of War Mobilization and Reconversion, authorizing them to procure articles from the Philippines which the United States finds needful, such as abaca, copra, sugar, rubber (the Philippines produce a small quantity), timber if needed, and minerals. The FEA directive also designates them as the agency to supply commodities to the Philippines which they need there for the rehabilitation of their economy. This latter phase of their activities will begin when the Army indicates that it wishes the FEA to take over. The Army is at present furnishing relief supplies in the shape of food, cotton cloth and clothing, medical supplies, etc. It is shipping rice, canned California sardines and salmon, and flour to the Philippine Islands. If the Filipinos do not have the money to purchase these food supplies, they are given to them.

When the Foreign Economic Administration is permitted to begin the procurement of copra will depend entirely upon the desires of the Military Theater Commander in the Philippines. Such permission has not been granted as yet. Meanwhile the FEA is perfecting its methods of procurement to be employed when the necessary permit to operate its copra procurement program is forthcoming from the Theater Commander.

Under present conditions it is impossible for private business to operate in the procurement of copra in the Philippines at a profit. There is no overland transportation on the various islands. All trucks were taken from the Filipinos by the Japanese. The inter-island shipping went the same way. There are no banks, no local insurance companies; there are not even warehouses available for the storage of copra. Whatever is done, therefore, along the lines of copra procurement must be performed by a governmental agency.

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THE ROSIN SHORTAGE

ROSIN, today, is probably the soap maker's number one supply problem. The quarterly Naval Stores Report of the U. S. Department of Agriculture, to be issued along towards the end of May, will probably show that rosin production for the crop year ended Mar. 31, 1945 has set a modern record. Unfortunately, it will be a record *low* production. Imports have been small too. Consumption and exports, on the other hand, reflecting the gigantic appetite of war will be at or near record levels. And finally, to complete the undeviatingly gloomy pattern being traced by the rosin situation, stockpiles are practically nonexistent.

Basically, the reason why rosin is in such short supply today is the shortage of manpower to gather and produce it. Besides a shortage of labor in the fields, which has reduced production, consumption has increased greatly since the start of the war. Lowered production and increased consumption are an unbeatable combination. And, until one or the other of these two elements reverses its present trend, no material change can be expected in the situation.

A further ramification, which exaggerates the labor problem and has a decided effect on consumption or use of rosin, is price. Price in relation to labor or manpower works in this way: Rosin is cheap as a raw material because in normal times labor costs in rosin production are low. Higher wages offered in nearby shipyards and war plants, where "cost-plus" contracts and less regard for the cost of the finished product allow higher wages, have during the war years, as might have been expected, drained off a considerable number of rosin workers. In an effort to reduce this almost mass exodus of workers from rosin producing regions, wages of workers were increased. The result was a rise in rosin prices. Eventually a ceiling was put on rosin prices, which tended to become a ceiling on wages and a brake on production. Being a cheap raw material, rosin has found increased use in soap and a number of other products since the beginning of the war. In addition to the price factor, the unavailability of other raw materials and the expanded use of rosin as a replacement material have put an added strain on production and stocks and prices, as well.

The labor situation in gum rosin has its counterpart as far as machinery is concerned in wood rosin. There is a shortage of "bull dozers" and trucks. Replacement of parts, tires and trucks and "bull dozers" themselves are difficult, if practically impossible to obtain for gathering wood rosin. The other horn of the dilemma is the employment of dynamite instead of "bull dozers" to remove stumps in gathering the wood rosin. Dynamite could be used, but it requires more manpower, and consequently must be ruled out as a replacement under today's conditions where manpower already is fearfully short.

What manpower means to rosin production can be best understood when it is realized that 2,547,000,000 operations were required to produce the small 1943-44 crop. These two and a half billion operations include such individual manual jobs as marking, "gashing," "aproning," "advance-streaking" and hanging a cup on each pine tree. In addition to the foregoing operations, each "face" had to be chipped at least 32 times, each cup "dipped" 7 to 10 times and each tree "face" had to be scraped—totalling 45 operations to each tree. Some idea of the magnitude of the job may be arrived at when it is considered that it took 56,600,000 "faces" to produce the small 1943-44 crop.

Against the background of the enormous total number of operations required in producing a rosin crop, the following humorous appraisal of the labor situation pretty well sums up what is happening: "Operators' sons (are serving with) the armed forces . . . their 'chippers', 'streakers' and 'dippers' (have gone) off to shipyards and the remaining help is either superannuated or supersaturated."*

Before going further with this discussion of the rosin situation and outlook, it is well to remember that rosin production is more of an agricultural operation than an industrial one. Therefore, before proceeding to make any definite predictions or observations as to what is or is not going to happen in rosin production it is well to make allowance for weather conditions. A cold, rainy season can reduce the size of the gum rosin crop just as certainly as can a labor shortage or absenteeism. Also in this connection—rosin being a seasonal agricultural product — informed sources caution that relief measures taken any time after Apr. 1, the beginning of the crop season, will come too late to affect this year's crop. The reason they advance for this is that a preparation period of about two months before the opening of the crop season is required. In the preparation period cups are cleaned, repaired or purchased if necessary, and other essential work of the sort is performed.

A NUMBER of suggestions have been advanced as to how best to increase rosin production. Among these are raising of price ceilings on rosin so that producers can pay higher wages

* From an advertisement of Southern States Iron Roofing Co., Savannah, appearing in May 25, 1944 Savannah Weekly Naval Stores Review and Journal of Trade.

and thus offset the competitive advantage of war plants and shipyards; use of more war prisoners; step-up the flow of crude gum by brushing sulfuric acid on the tree "faces"; and the granting of more and higher draft deferments to workers producing rosin. As for raising prices, producers are reported as saying that the price of rosin will have to be lifted to about 10 cents a pound to accomplish the end of inducing workers to remain on the job and at the same time bring in new workers. The present price span on rosin runs from $5.90 a hundred pounds for grade B to $7.40 a hundred pounds for X. There is also talk of not-less-than-a cent a pound increase attributed to producers, but at this writing the OPA has not as yet acceded to new ceiling rise demands.

The use of sulfuric acid as a means of increasing the flow of gum is not meeting with any notable success since the workers object to carrying this dangerous liquid through the woods. War prisoners are being used as "tappers," and as more prisoners are brought to the United States, it is expected that an increasing number will find their way into the woods. No clear statement of policy as to deferments for workers has been made available as yet, although, generally, there is no apparent slackening of efforts to induct available men into the armed forces.

The termination of the war in Europe may relieve the manpower situation somewhat, although its effect on the production of gum rosin will not be evident for some time. Machinery, possibly trucks and "bull dozers" for the obtaining of pine stumps and wood rosin, should be in easier supply following "V-E" Day, and it is primarily from the wood rosin source that we should look for more immediate help in easing the rosin shortage. At the same time, the end of the war in Europe will not mean an immediate cessation of shipping of rosin supplies and products containing rosin to Europe. In some departments, the demands for rosin for use in Europe for rehabilitation and relief may be even greater than at present. An example of this might be soap. In addition to rosin being shipped indirectly, that is in products in which it is a raw material, much rosin as such will probably continue to go to Russia for some time after "V-E" Day for use in materials for the war against Japan.

Besides suggestions as to various ways to increase production, negatively, a reduction in consumption to help relieve the short supply was effected recently by the War Production Board with the issuance of Order M-387. The order restricts the use of rosin in various products to a percentage of the amount of rosin used for those products in the corresponding quarter of 1944. The order further attempts to reduce inventories of rosin users by prohibiting acceptance of rosin deliveries which would bring inventories above a three-months aggregate. By the terms of Order M-387, soap for civilian consumption was cut to 25 per cent of its corresponding 1944 quarter. Another big rosin user that was cut was the paint industry which was given a 30 per cent civilian quota. Printing inks, resin and other manufacturers using rosin received corresponding cuts in the amount of rosin they were permitted to use for civilian needs.

Record low production coupled with increased demand make rosin today the soap maker's chief supply problem

WHILE estimates as to the quantity of rosin in soap makers' inventory vary from 90 days to 12-18 months' supplies, reliable sources indicate accuracy lies in the direction of the smaller figure. The reasoning behind the belief that soapers have a year or more's supply of rosin on hand stems from several factors: soap makers always buy their raw materials in huge quantities in order to obtain the lowest possible price; soap makers recently bought a large quantity of rosin just after ceiling prices were established and just before ceilings were raised. On the other hand, it is true that soap purchases of rosin have increased considerably during the past two years, but soap production has also increased. The shortage of fats and oils, particularly tallow, and more recently lard, would indicate an increased useage of rosin. Secondly, estimates place military, lend-lease and relief soap production at roughly ten per cent of the total output. Over and above these, there is soap for synthetic rubber and other industrial uses amounting to about another one-fifth of the total soap production. A large proportion of the soaps used for the purposes listed above is the yellow bar type that requires as much as 30 per cent rosin. These will feel the rosin shortage, even with a great reduction in the permitted

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Industrial Sanitation . . . . .

A forward looking concept of the future position of the sanitary products industry which envisions a considerably expanded role for manufacturers of sanitary products

*By M. H. Solworth**
Joseph E. Seagram & Sons

Part II

IN order that the department-head may not have to wrestle personally with sanitation problems, and so that he may be able to devote his energies entirely to administration, the company provides a number of channels through which he may receive adequate technical assistance. The first of these is a plant sanitationist who is a capable engineer with wide authority and adequate knowledge of distillery sanitation. He advises the plant sanitation organization and, through the sanitation supervisors, instructs the sanitors, or specialized sanitation workers; at the same time, he is available for consultation with any executives who may need technical assistance. Second, the department-head is provided with several administrative tools which are, we believe, unique.

A *sanitation inspection* form is used to record weekly sanitation levels, which are calculated by a specifically weighted formula on a form designed for each area and each department. This takes the guess-work out of sanitation and at the same time provides a reliable index to sanitation levels. Such rating forms, when posted, give all personnel an understanding of the causes for departmental levels. In addition, when studied on a comparative basis by management, they provide a sure indicator of problem-areas, supply a device for building up the pressure of competition, and become a part of each executive's personnel record. They assure the continuity of the sanitation program. As a further aid, *departmental service-orders* can be written at any time when the department-head needs emergency sanitation help. In this way, top management takes an aggressive part in motivating and administering sanitation.

Further assistance is provided the department-head through an education program permeating all personnel levels. Representatives of management receive training in the technics of sanitation; operational personnel are trained in their function of eliminating dirt and disorder from manufacturing procedures; the sanitors receive carefully planned courses in technology, in the nature and use of products, and personal hygiene. Completion of these courses carries with it a dignified diploma. Both men and women sanitors receive uniforms which are kept immaculate at all times. Social gatherings for both colored and white sanitation personnel help to maintain morale at a high point. This attention to a group formerly neglected pays high dividends. There is an obvious improvement in sanitation levels and an encouraging upgrading of a whole industrial group. We feel sure that it is only a question of time until a much higher type of individual will be developed for the work of keeping industry clean.

These are all immediate, short-range helps to maintain controlled sanitation. They take care of the day-to-day sanitation problems very well. However, a long-range program is now in the making. This involves the establishment of an Industrial Sanitation Foundation which will employ specialists to develop the research aspects of preventive sanitation, architectural and engineering features, sanitary products, technology, machines and equipment, and personnel training. It implies enlisting the cooperation of numerous professional and technical organizations and many industrial plants and laboratories. This Foundation will be the first organized effort to put industrial sanitation on a scientific and well integrated basis, and to shift the emphasis from wasteful corrective procedures to long-range preventive measures. Details on this project are not yet ready for release, but it is hoped that they will be available soon.

There will always be those who claim that an advanced program of this type can succeed only in large, ultra-progressive organizations. Let them remember that the Seagram company started, several years ago, from a point well below scratch and now maintains one of the most complete sanitation programs in the country in an industry which, by its nature, is notoriously hard to keep clean—a program closely integrated with the philosophy of personnel-development and with the needs of the industry.

Other progressive companies did not start on the levels they now maintain; they worked up to them, and always the hard way, for they had little aid from the very people who should have been leading them. For every step of progress, a high price in planning and work must be paid; a progressive program does not come into being accidentally. Behind each advance in methods, equipment, or organization there is an unseen background of painstaking labor and a fair share of discouraging failures. Each plant and each industry has its own requirements, but the principles of controlled sanitation can be made to apply in any plant, large or small.

The Future of Industrial Sanitation: While speculation is always hazardous, it is at the same time imperative to consider how all this may influence sanitation of the future. The Industrial Sanitation Foundation previously mentioned may eventually become a full-fledged technical society. Interest of effective people will be aroused, research facilities of industrial organizations will concentrate upon the most pressing problems, and industrial sanitation will take its first steps toward becoming a profession. Then will follow an advanced technical school for Industrial Sanitationists and Sanitation Directors, where graduate engineers will be trained under the direction of established university professors and experienced industrial engineers. These young men not only will receive training in industrial sanitation, but will have an opportunity to combine work with education and, through industrial contacts, be enabled to gain valuable industrial experience.

* Address before 31st Annual Meeting, Nat'l Assn. of Insecticide and Disinfectant Mfrs., New York, Dec., 1944.

The young men coming from these training programs will be the new professionals — not maintenance engineers, not sanitary engineers, not public health workers, but *Industrial Sanitationists*. They will be able to translate their know-how into organized action so that all industrial forces — management, technology, research, education, may be utilized in the war on dirt and disorder. They will realize that sanitation stands for something more than clean toilet-rooms, polished floors, and dust-counts — that it reflects an attitude of mind, an appreciation of an advanced way of living and working. Through projected research and investigative facilities, they will be able to establish and maintain new sanitation levels. They will supply the technical counsel needed by industry in all phases of sanitation. They will replace the often sincere but more often misguided efforts of untrained sanitation supervisors, of ignorant, shortsighted purchasing agents, of men who see but one small portion of the whole picture and see that only through the obsolete corrective phase of sanitation. The new sanitationist will not be primarily interested in attacking industrial insanitation through the purchase and dispensation of sanitary products, but rather in isolating and achieving certain definite objectives.

For example, if we may draw again upon the experiment in controlled sanitation now under way, our first step was to make a survey to determine the levels which management wished to maintain, the problems to be attacked, the personnel available, and the probable costs. A program was then developed on this basis. Each month there are minor adjustments in it, and each year it is given major revision. Next year, for instance, one of our objectives will be to institute a long-range reduction of the costs of industrial sanitation. Over a three-year period we hope to reduce the sanitation budget for eleven plants by $137,000.00 per year. At the same time we plan to raise the levels appreciably above those maintained at present. This will be accomplished largely through streamlining the corrective aspects of sanitation and simultaneously developing the long-range preventive features, the use of new materials and designs, the engineering of tools and equipment, and the more effective use of personnel.

We are designing and installing sanitation, water-change, and storage closets; individual products-kits are being developed to make workers more efficient and to conserve materials; mechanized cleaning tools for floors, ledges, walls, and machinery have been developed or are being perfected. Systematic cleaning schedules are in force, so set up that the sanitation staff turns out more and better work than was formerly possible under the loose clean-it-when-you-notice-it-gets-dirty arrangement; these schedules not only improve the working habits of the sanitation employees, but also make supervision and management easier and more efficient.

Since the sanitary products constitute only a small proportion of the total expenditure, there is little real gain to be made from arbitrarily and drastically reducing the consumption of materials. In fact, it might even be advisable to increase the budget for supplies—if we could be assured that better products could be obtained. If we could get sanitary products which would shorten cleaning operations or save repetitious labor, we could well afford to pay several times the price now paid for standard products. Consequently, the problem of the sanitationist is to strike a balance between the levels desired and the money to be spent—although there is, of course, a point beyond which there are diminishing returns both in increased levels and in economy.

How will this new concept affect the sanitary products manufacturers? In the long run, probably for the better, for the market will be stable and intelligible. The manufacturers will be dealing with the new sanitationist, and will understand his aims, his background, and his objectives. Industry's needs will be clearly defined, and the sanitary products manufacturers can concentrate not only upon production to supply those needs, but also upon research to discover better ways of fulfilling them, and perhaps even upon ways to diminish or eliminate some of them entirely. No progressive industry wants to continue the production of useless, deceptive, or questionable materials simply because there is a market for them, especially when there are so many new and better products needed so badly. The sanitary products people should work toward establishing an ethical relationship to industry, a relationship which can be the basis not only for an enriched economic future, but also for a new and deep satisfaction in the performance of a greater professional service to both industry and to the nation at large.

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Water Softening

The lime-soda process for softening water has been greatly improved by conversion to a 2-stage process with filtration after addition of lime and after addition of soda ash. It is carried out at room temperature. Paper pulp makes an excellent filter mat. Hard water was softened to 27 p.p.m. as calcium carbonate—comprising 24 p.p.m. calcium hardness and 3 p.p.m. magnesium hardness—in a total time of 30 minutes, 15 minutes for each stage. The same water treated with lime and soda simultaneously retained more than 200 p.p.m. total hardness as calcium carbonate after 30 minutes, and over 100 p.p.m. after 2 hours. The silica content of water is also reduced by this treatment. The method is slightly more expensive than the minimum cost for the old lime-soda treatment but is considerably more economical than the hot process of sodium aluminate softening. W. F. Gerrard. *Manufacturing Chemist* 16, 64-6 (1945).

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Solubility of Metaphosphates

The presence of small quantities of the nitrates of sodium, calcium, magnesium or ammonium, sodium hydroxide, sodium metaphosphate, calcium carbonate or metaphosphate, nitric acid or sulfuric acid, greatly increases the solubility of potassium metaphosphate in aqueous solution. Potassium nitrate and potassium sulfate decrease the solubility of potassium metaphosphate slightly.

Concentrations of sodium nitrate, potassium nitrate, magnesium nitrate and ammonium nitrate up to 0.016 Normal had no effect or caused only a slight decrease in the solubility of calcium metaphosphate. The presence of calcium carbonate greatly decreased the solubility of calcium metaphosphate but increased that of potassium metaphosphate. Additions of small quantities of sodium metaphosphate, potassium metaphosphate and monosodium phosphate increased the solubility of calcium metaphosphate slightly.

The rate or amount of reversion of potassium or calcium metaphosphate to the orthophosphate was not affected by salt concentrations up to 0.020 Normal. Noticeable reversion of potassium metaphosphate took place on standing in nitric and sulfuric acid solutions where the pH of the solution was below 4.0. The solubility of calcium metaphosphate increased with the time of standing in aqueous solution. The solubility of potassium metaphosphate increased only slightly on standing for a long time. C. C. Volkerding and R. Bradfield. Soil Sci. Soc. Am., Proc. 8, 159-66; through Chem. Abs.

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TRADE NEWS. . . .

Lawrence Peck to Marry

Lawrence W. Peck, a son of G. P. Peck of Peck's Products Co., St. Louis, and before his induction into the

ENSIGN LAWRENCE W. PECK

Army also connected with the company, will shortly be married to Miss Marilyn Carpenter, daughter of Mr. and Mrs. Roy Carpenter of Hamburg, Iowa. Lawrence, Mr. Peck's youngest son, enlisted in the Naval Air Corps in December, 1942. He attended Midshipmen's School at Fort Schuyler, N. Y., and was commissioned an Ensign in the U. S. Naval Reserve in March of this year. He is now stationed at the Naval Air Station at Dallas, Texas. His older brother, Major Leo G. Peck, is in Europe with the American First Army.

Foreign Visitors in U.S.A.

Charles L. Huisking & Co., New York, drugs, chemicals and essential oils, anticipate early visits from three important foreign buyers of drugs and chemicals. Pierre Teisseire, managing director of Instituto Pasteur de Lisboa, Lisbon, Portugal, was expected to arrive in United States early in May. J. A. Adamson, manager of Booker's Drug Stores, Georgetown, Demerara, British Guiana, was also expected to arrive about the same time. His firm recently lost much of its drug and chemical stock in a fire, and faces the necessity of complete restocking. Another visitor, G. E. Maddison, managing director, Elliotts & Australian Drug, Pty., Ltd., Sydney, Australia, was also expected to arrive early in May. American manufacturers interested in contacting these three visitors may communicate with them through Charles L. Huisking & Co., 155 Varick St., New York 13, N. Y.

Charles B. Bergin Dies

Charles B. Bergin, retired secretary of the Los Angeles Soap Co., Los Angeles, Calif., died last month at the age of 69. Mr. Bergin was a charter member and one of the organizers of Los Angeles Council No. 621 of the Knights of Columbus, and was field secretary for the order in Europe during the first World War. He is survived by a sister and 12 nieces and nephews.

CSA To Hear Willard Dow

Willard Dow, president of Dow Chemical Co., Midland, Mich., is to address members of the Salesmen's Association of the American Chemical Industry at a luncheon meeting at the Hotel Commodore, New York, May 22. He will be introduced by Ralph E. Dorland, manager of the Dow New York office and a past president of the Salesmen's Association.

A luncheon meeting was held April 25 at the Roosevelt at which Harold W. Fisher, manager of the chemical products department of Standard Oil Company of New Jersey spoke on "The Petroleum Industry as the Supplier and Customer of the Chemical Industry."

Aromatic Products Transfers Perry

Herbert E. Pery, previously a perfumer with the company, has been transferred to the Chicago office of Aromatic Products, Inc., New York, where he has become a member of the sales staff for that territory.

Dr. M. H. Ittner, C-P-P, Dies

Dr. Martin Hill Ittner, 74, chief chemist for Colgate-Palmolive-Peet Co., Jersey City, N. J., died April 23. He had been ill for the past six

MARTIN HILL ITTNER

months. Dr. Ittner joined Colgate Co. in 1896 as chief chemist after having been private assistant to Dr. Wolcott Gibbs at Newport, R. I., for a few months in the same year. A graduate of Washington U., where he received his B.Ph. in 1892 and his B.Sc. in 1894, Dr. Ittner received his A.M. and Ph.D. degrees in the next two years. When Colgate Co. became Colgate-Palmolive-Peet Co. in 1928, Dr. Ittner remained as chief chemist. He was a native of Berlin Heights, O., and held a number of patents on the manufacture of soap and glycerin, etc.

Offer New Waterproof Coating

Continental Asbestos & Refining Corp., New York, has announced development of a new resilient waterproof coating which will be marketed under the name "Liquinoleum." For use on roofs, walls and other surfaces exposed to the elements, it is said to be highly resistant to extremes of temperature. The manufacturer indicates that it is unaffected by acid fumes, is unusually fireproof, and it does not crystallize on setting.

Army Soap Plant in Italy

The Quartermaster Corps for the Fifth Army in Italy has recently started soap production in a plant which they have taken over in Florence. Output is said to be in the neighborhood of 16,000 lbs. of soap per month, and the staff consists of four young Italians under the direction of the Fifth Army's Quartermaster Purchasing and Contracting Officer, Lt. Col. Gregory J. Cook of Tulsa, Okla. Reclaimed fats and greases from Army kitchens constitute an important part of the raw material, and other fats and oils have been obtained locally. The factory itself is over 250 years old, and has long been operated by the Bernini family. It is said to be supplying approximately one-quarter of all GI soap used by the Fifth Army.

Who Makes Fitzgerald's Soap?

One of our readers would like to learn the name of the manufacturer of a soap in paste form, known in the trade as "Fitzgerald's Head Soap." Any information leading to the identity of the maker would be received by your editor with appreciation.

Canadian Soap Output Gains

The production of soap in Canada in 1943 amounted to 237,024,000 pounds, as compared with 233,841,000 in the preceding year, an increase of 1.3 per cent, the Dominion Bureau of Statistics reports. The total value fell to $25,289,000 from $25,632,000. There were 66,983,000 pounds of hard laundry and household soap produced during 1943, 69,755,000 pounds of soap powders, 44,644,000 pounds of soap chips and flakes, 33,426,000 pounds of toilet soap; 6,342,000 pounds of liquid soap, and 4,412,000 pounds of soft soap.

Promote Co-op Soap Sales

Promotion of cooperative brands of soap is being stimulated among the 5,000 consumer cooperative stores of the nation in a campaign which has set the first week of each month for special attention to this commodity by store managers. In the advertising department of National Cooperatives, Inc., Chicago, a set of material has been prepared which includes mats of newspaper advertisements, suggested newspaper releases for the co-op press, a mass display poster, price cards and a consumer leaflet. News releases to the co-op press tell also of tests made on dairy farms near Waukesha, Wis., with a "Co-op" brand of dairy and household cleaner.

Liberate P&G Philippine Employees

Capture of Manila by Gen. MacArthur's army resulted in liberation of all Procter & Gamble people, except one, who had been associated with the Philippine Mfg. Co., according to a report in *Monnbeams,* P&G house organ. All had been interned in Japanese prison camps since early in 1942. They were to be returned to America as soon as transportation could be arranged. Considerable damage was sustained by the P&G plant, although some sections were in fairly good condition. During the occupation it had been operated by the Japanese for production of a poor quality soap, it was learned.

Lever Salesman Dies

John Curtis, 77, died on March 20 at St. Michael's Hospital, Toronto, after a brief illness. He had been a sales representative with Lever Bros., Ltd., for 40 years before his retirement some years ago. He was past president of the Canadian Travellers' Association.

BIMS Announce Golf Dates

The BIMS of New York have announced that the first of three 1945 golf outings will be held at the Baltusrol Golf Club, Short Hills, N. J., June 28. Later outings are scheduled for July 26 at the Sleepy Hollow Country Club, Scarborough - on - Hudson, N. Y., and August 23rd at Plandome Golf Club, Plandome, L. I.

C-P-P To Spend $9,000,000

Colgate - Palmolive - Peet Co., Jersey City, N. J., plans to spend $9,000,000 on a postwar property replacement and modernization program, according to disclosures in the annual report of the company, released recently.

Ives To Address Drug Section

Irving M. Ives, majority leader of the New York State Assembly, is to address members of the Drug, Chemical and Allied Trades Section of the New York Board of Trade at a luncheon meeting to be held at the Waldorf-Astoria, New York, May 17. He will discuss the subject of anti-discrimination in the light of the newly adopted legislation on the subject.

John D. Larkin Dies

John D. Larkin, Jr., former president and general manager of the Larkin Co., Buffalo, soap manufacturers, died in Buffalo early last month after a long illness. Mr. Larkin was the son of the founder of the Larkin Co. and had been associated with the company for 38 years.

Iorns Co. Represents Syntomatic

Syntomatic Corporation, New York, essential oils, and perfume oil specialties, announces the appointment of The Clifford L. Iorns Company of St. Louis, to represent them in the St. Louis and adjacent territories. Victor L. Roberson, head of The Clifford L. Iorns Company, looks after the sales contacts of the company.

Sample "Solventol" in Chicago

Solventol Chemical Products, Inc., Detroit, distributed samples of their "Solventol" household cleaner in Chicago late in March, using *Downtown Shopping News* as the medium to effect the presentation. A full page advertisement was carried in this shoppers' guide, to which was attached a sample of the product.

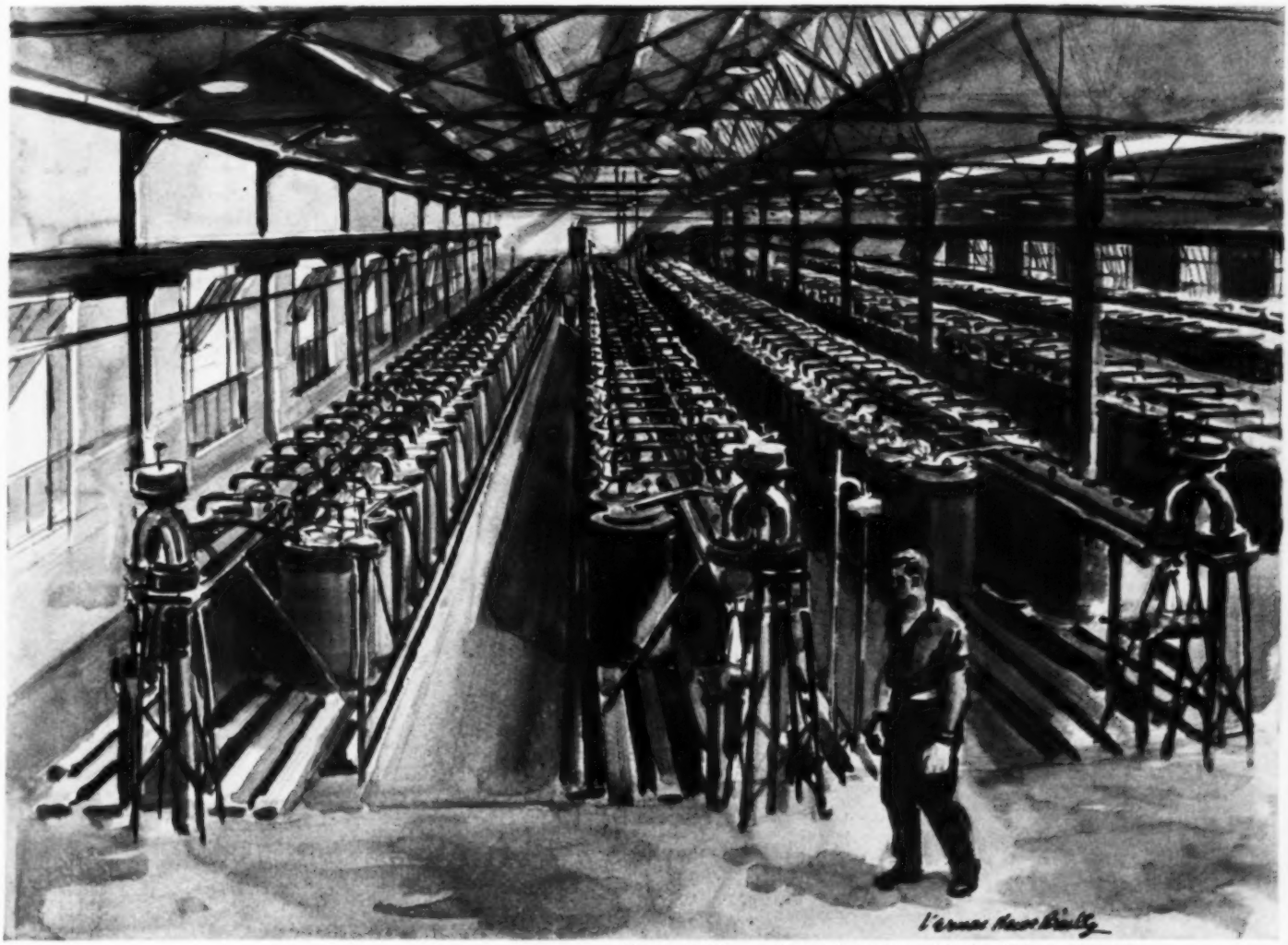
Offer Premiums with "Old Dutch"

Cudahy Packing Co., Chicago, is currently offering flower bulbs and flower seeds as premiums to purchasers of their "Old Dutch" household cleaner.

Traffic Mgrs. Elect Ferguson, C-P-P

Wm. Ferguson, traffic manager, Colgate-Palmolive-Peet Co., Ltd., of Toronto, was elected president of the Canadian Industrial Traffic League at their recent Montreal convention.

A Constant Flow



View of one Cell Room at Niagara Plant as interpreted by the artist, Vernon Howe Bailey

TYPICAL of the modern facilities with which Niagara Alkali Company is maintaining a constant flow of electro-chemical products for use in war production is the array of liquid chlorine cells illustrated here. Such up-to-the-minute equipment plus the efficient methods of control over quality established by Niagara's pioneering chemists are responsible to a great extent for Niagara's reputation as a quality producer in this field of chemical manufacture. Niagara's products are the result of thirty-six years of specialization and their reliability represents the untiring efforts of an experienced staff devoted to quality production. Look to Niagara for reliable chemical service.

Niagara ALKALI COMPANY

60 EAST 42nd STREET, NEW YORK 17, N. Y.

CAUSTIC POTASH • CAUSTIC SODA • PARADICHLOROBENZENE • CARBONATE OF POTASH • LIQUID CHLORINE

Shave Cream Market Survey

Sales of shaving cream by civilians amounted to over $20,000,000 in 1944, while in both the popularity and dollar volume columns, brushless shaving cream outsold the lather type, according to a survey published in the April 15, 1945 issue of *Tide*. Advertised brands of both types of shaving creams represented about 75 per cent of the sales of the entire market. Average unit price of the creams was 33c.

In addition to strong sectional preferences for either the lather or brushless type shaving creams, the type of retail store affected the preference. For exampple, drug store purchases, the survey showed, are 43 per cent lather and 57 per cent brushless; dime stores reverse the preference, the figures being 35 per cent brushless and 65 per cent lather. Drug store sales, incidentally, account for 75 per cent of all sales, with all other types, (excluding department and 5 and 10 cent stores) such as grocery, general, hardware, canvasser, etc., responsible for 11 per cent. Dime stores and department stores each sell seven per cent of the total, it was indicated.

The market is mainly concentrated in small cities and in the East. Southern men and farmers use less shaving cream than any other group. They also prefer the lather type to brushless shaving cream, as do more central and western dwellers. The average size of the unit, whether brushless or lather type, is 4.3 ounces.

Emfo Corp. in New Quarters

Emfo Corp., 404 Fourth Ave., New York, recently moved its offices and laboratories to 87 Maiden Lane, New York 7. The company manufactures cosmetics and pharmaceuticals.

Polyphosphate Comparator

A device for the simple, rapid and accurate analysis of glassy phosphates such as hexameta, pyro, septa, etc., has recently been developed by W. A. Taylor & Co., Baltimore. A complete determination requires only about 20 minutes, the manufacturer states, as compared with several hours by previous methods. The outfit consists of a comparison block containing eight standards, two comparison tubes, funnel, filter paper, graduate, flask and reagents, all packed in a carrying case.

Charles Albert Massey, newly elected president of Lever Brothers, Ltd., of Canada, is a native of Canada, and recently returned from Australia, where he had been serving the firm. Mr. Massey has practiced law.

Canada Toiletries Output Up

Production of Canada's toilet preparations industry was valued at $15,510,204 in 1943, compared with $12,201,445 in 1942, and $10,155,763 in 1941, the Dominion Bureau of Statistics reports. The Toilet Preparations Industry includes all establishments which are occupied chiefly in making perfumes, toilet waters, face creams, tooth pastes, etc., but this industry accounts for only about 83 per cent of the Canadian output of toilet preparations as a number of concerns in other industries make this class of goods as a minor or secondary part of their business.

Synthesize Gum Benzoin

Bendix Chemical Corp., New York, has recently placed on the market a synthetic gum benzoin which is said to have properties quite similar to natural gum benzoin of the Siam type. Supplies of natural gum benzoin have been very short over the past year or two as a result of the war. The Chemical Division of McKesson & Robbins, Inc., New York, has been appointed distributor for the new product.

Skotch Products Move

Skotch Products Corp., Cleveland, manufacturer of hand soap, cleaners, disinfectants, etc., has just occupied a new building at 2710 Detroit Ave. The new home of the company is a commodious four-story brick building with complete facilities for manufacturing and shipping. Extensive alterations have been made and new equipment installed to suit the company's needs. Floor space has been increased about 300 per cent and operations are now entirely centralized under one roof. The company was formerly located at 1220 West 6th St. H. C. Brown is president of Skotch Products Corp.

Aromatic Prods. Veteran Back

Lt. Louis Romani, an employee of Aromatic Products, Inc., New York, before going into the United States Army in October, 1941, has recently returned home on leave. With an American tank destroyer unit, he was in the first wave to land in North Africa, and figured also in every major engagement in the Italian campaign. He received the Silver Star for gallantry in action, was awarded the Purple Star with Oak Leaf cluster after being wounded twice at the Anzio beachhead, and his platoon was cited by General Clark in the presence of the King of England.

Detroit Assn. Golf Plans

Geoffrey Snider, chairman of the golf committee of the Allied Drug & Cosmetic Association of Detroit, has announced the following schedule of tournaments for the balance of the 1945 season: May 29, June 26, July 31, August 28, September 25 and October 23. All tournaments will be held this year at the Birmingham Country Club. The opening outing was held April 24.

Issue Drug Store Study

Owens-Illinois Glass Co., Toledo, has recently completed a study of "Self-Service Drug Stores vs. Counter-Service Drug Stores." Copies of the report, in booklet form, are available.

Norda

Synthetic floral oils . . .

PRESENT reduced supplies of natural floral essences emphasize the value of high quality substitutes. Synthetic floral essences can be used to replace the natural oils with full satisfaction and marked success in numerous products,—toilet soaps, shampoos, shaving creams, powders, creams, and many others.

In fact, in many products the newer synthetic floral essences are to be *preferred* for the manner in which they reproduce the true fragrance of the living flowers in the finished product,—not to mention uniformity of quality and odor fidelity, and their economy under present conditions.

Let us tell you more about these Norda substitutes as an answer to the scarcity of natural floral oils.

NORDA Essential Oil and Chemical Co., Inc.

Chicago Office
325 W. Huron St.

Los Angeles Office
2800 E. 11th Street

St. Paul Office
253 E. 4th St.

Toronto Office
119 Adelaide St., W.

New York Office
601 West 26th St.

Montreal Office
135 Commissioners St., W.

OPA To Adjust Price Ceilings For Sellers of Low-Price Soaps

MANUFACTURERS of low-priced household soaps and cleansers, who are suffering hardship under present OPA price ceilings, have been given a method for obtaining relief in a new amendment (No. 5) to MPR-391. Soap makers must apply individually to OPA for relief. Conditions under which adjustments in present price ceilings can be made are outlined in the following official OPA announcement:

Manufacturers of low-priced household soaps and cleansers who are suffering hardship may apply for increases in their present ceiling prices under an individual adjustment provision announced by the Office of Price Administration today.

The new adjustment provision, effective April 30, 1945, is in line with OPA's announced policy of giving individual price adjustments beyond the minimum requirements of law to maintain low-priced supplies of essential products.

Some manufacturers of household soaps and cleansers are finding it impossible to continue production of certain items unless ceiling prices are increased, because of increases in labor and material costs, OPA said. In some cases, maximum prices for these products are lower than the selling prices of competitive items.

While the amendment applies only to manufacturers' ceilings, it stipulates that when adjustments in such prices are made, resale prices for the products may be adjusted by OPA if it appears necessary.

Uniform dollar-and-cent ceiling prices for sales by manufacturers of certain brands of household soaps and cleansers have until now remained unchanged since they were established on May 24, 1943. Also covered by the regulation are unlisted brands, the ceilings for which are currently determined by the highest price charged a particular class of purchaser in January 1943 or June 1944. If no sales or deliveries were made at either time, ceiling prices are determined upon application to OPA.

The amendment lists the information that must be submitted to OPA with requests for adjustment of ceiling prices.

Amount of the adjustment that may be granted the manufacturer is determined as follows:

1. If applicant's current over-all earnings are better than during the base period, ceiling prices will be adjusted so as to equal unit direct cost, average freight out and indirect factory cost per unit currently or for the year 1942, whichever is lower.

2. If applicant's current profits are normal compared with the base period, adjusted prices may also include administrative and selling expenses per unit currently or for the year 1942, whichever are lower.

3. If applicant's earnings are less than during the base period, the ceilings may also include a profit not in excess of the least amount that will result in his earnings being favorable.

4. In all cases, the amount of adjustment is limited to an amount equal to the difference between the applicant's present ceiling and the selling price of the next higher competitive seller able to supply the applicant's customers with the same product or an equivalent substitute.

The base period is usually the years 1936 to 1939, inclusive. However, when this period is not representative of normal operations, another appropriate peace-time period is used.

(*Amendment 5 to Maximum Price Regulation No. 391—Household Soaps and Cleansers Sold by Manufacturers, Wholesalers—effective April 30, 1945.*)

Propose PP-591 Revision

The National Bureau of Standards, U. S. Department of Commerce, Washington, D. C., has released the tentative draft of a proposed revision of Federal Specification P-P-591, covering scouring powder for floors. Comments and criticism on the text of the new specification will be welcomed. Copies are obtainable from the Bureau.

Boyer Remus Coast Rep.

Appointment of O. D. Boyer Co., Los Angeles, as Pacific coast representative, and the transferring of the firm's middle western office from 908 Central St. to 806 Delaware St., Kansas City, Mo., have just been announced by Edward Remus & Co., New York essential oil and aromatic chemical house.

Irsch Joins Gardner-Richardson

Frank E. Irsch, Jr., formerly a Captain in Chemical Warfare Service, A.U.S., has been placed on the inactive list by the War Department and has joined Gardner-Richardson Co., Middletown, O., the company announced recently.

GORDON E. BUCK

Detroit Assn. Elects Buck

The allied Drug & Cosmetic Association of Detroit, elected Gordon E. Buck as president at the recent annual meeting. Mr. Buck has been connected with the Detroit office of the Standard Oil Company for the past 17 years, and is vice-president of the Detroit Standard Oil Credit Union. Other officers of the Allied Drug & Cosmetic Association are M. G. deNavarre, vice-president; A. S. Bedell, secretary; and Stewart Cowell, treasurer. Members of the executive committee include Donald Melville, E. E. Van Allsburg and Geoffrey Snider.

Dunning Heads Chicago Assn.

Harry E. Dunning of Albert Verley & Co., Chicago, was recently elected president of the Chicago Drug and Chemical Association. Other officers elected included: Dale F. Ruedig, Eli Lilly & Co., vice president; John L. Thomas, Jos. Turner & Co., secretary; Wilson Doan, Dow Chemical Co., treasurer. Directors elected for two years included: Edgar E. Brand, L. Sonneborn Sons, Inc.; Ed. Davis, Davis & Davis; A. L. Starshak, Valentine Labs., Inc., Charles O'Malley, *Drug Topics*.

Sergeant Pulp Moves

E. M. Sergeant Pulp and Chemical Co., New York, manufacturers, importers, manufacturers' agents and distributors of chemicals and oils since 1867, recently moved from their former quarters at 350 Fifth Ave. to new and larger quarters at 7 Dey St., New York 7.

For Emergencies

LIFE-RAFT KNIVES "AT THE READY"

MANY a U. S. fighting man has found his best friend to be a good stout knife, especially on a life-raft. That is why life-rafts are not only equipped with knives, but each knife is provided with a leather sheath, so it can be worn on the belt—"at the ready" for instant use.

Ordinarily, seawater would soon have the sheaths useless because of shrinkage and stiffness. But this does not happen, for the sheaths are made impervious to water through the application of Triple-Action Viscol, manufactured by The Viscol Company, Stamford, Conn.

This firm makes sure their product will always be "at the ready," too—they give it the sure protection of Crown Can packaging.

★ ★ ★ ★ ★ CROWN CAN ★ ★

INDEPENDENT AND HELPFUL

CROWN CAN COMPANY • NEW YORK • PHILADELPHIA • DIVISION OF CROWN CORK AND SEAL COMPANY, BALTIMORE, MARYLAND

BIDS AND AWARDS

WFA Soap Purchases

The War Food Administration, Washington, has announced the following awards made in connection with special purchases in recent openings for miscellaneous supplies by the WFA: soap products, Procter & Gamble Distributing Co., Cincinnati, 91,125 pounds at 14.7556c a pound and 16,875 pounds at 26.6668c a pound; and on flating soap, Lever Bros. Co., Cambridge, 341 cases at 3.72c a cake.

Navy Soap Awards

Among the awards announced in connection with a recent opening for miscellaneous supplies by the Navy Department, Bureau of Supplies and Accounts, Washington, D. C., were: Fitzpatrick Bros., Chicago, 42,520 pounds of soap, at 11.5c; Chicago Sanitary Products Co., Chicago, 144,450 pounds of soap at 11c; Procter & Gamble Distributing Co., Cincinnati, 150,000 pounds of soap, at 11.19c and 100,000 pounds of soap, at 11.16c; S. Strunz & Son, Pittsburgh, 207,000 pounds of soap, at 11c, and James Good Co., Philadelphia, 7,660 pounds of soap, at 10c.

P. O. Miscellaneous Bids

In a recent opening for miscellaneous supplies by the Post Office Department, Washington, D. C., the following bids were submitted: (a), on 15,000 pounds of paste metal polish, Oil Specialties & Refining Co., Brooklyn, 14.2c a pound; Solarine Co., Baltimore, 22.5c; International Metal Polish Co., Indianapolis, 8.5c; R. M. Hollingshead Corp., Camden, N. J., 19c; Fuld Bros., Baltimore, 8.5c; Wonder Chemical Co., Brooklyn, 7.49c and Walter W. Miller Co., Indianapolis, 20c; (b), on 1,500 gallons of liquid furniture polish, Kirsch Co., Sturgis, Mich., $1.19 a gallon; C. P. Baker & Co., Philadelphia, 70c; Oil Specialties & Refining Co., Brooklyn, 58c; International Metal Polish Co., Indianapolis, 80c; R. M. Hollingshead Corp., Camden, N. J., 52c; Fuld Bros., Baltimore, 60c; Robert R. Moser, Kansas City, Mo., $1.25; Industrial Distributors, Inc., New York, 70c; A. L. Cahn & Sons, New York, 74c and Trio Chemical Works, Brooklyn, 52c; and (c), on 6,000 pounds of soap powder, Tesco Chemical Co., Atlanta, 4.96c a pound and Unity Sanitary Supply Co., New York, 10c.

Treasury Shave Cream Bids

William Messer Corp., New York, submitted the low bid of 32.7c a pound on 800 pounds of shaving soap in a recent opening for miscellaneous supplies by the Treasury Procurement Department, Washington, D. C. Other bidders included, J. B. Williams Co., Glastonbury, Conn., 35.28c a pound; N. Brittingham & Sons, Philadelphia, 32.9c a pound and Unity Sanitary Supply Co., New York, 38c.

Fine Organics Germicide Award

The following bids were received in a recent opening for miscellaneous supplies by the Philadelphia Navy Yard, Philadelphia, on 1,300 gallons of germicide: Winthrop Chemical Co., New York, item 1, $2.794; Fuld Bros., Baltimore, $3.85, item 1 and $3.95, item 2; Gerson-Stewart Corp., Cleveland, item 1, $775, and item 2, $1,240 and Fine Organics, Inc., New York, item 1, $4.01, and item 2, $4.05, both bids accepted.

Veterans Adm. Bids

The following bids on: item 1, 2,000 lbs. of shaving soap; item 2, 4,800 lbs. of shaving soap; item 3, 2,420 dozen packages of shaving cream; item 4, 2,880 dozen packages of shaving cream and item 5, 8,000 dozen packages of tooth paste; were received in a recent opening for miscellaneous supplies by the Veterans Administration Procurement Division, Washington, D. C.: Mark Allen Co., Detroit, item 3, $16.80, 2⅞ oz.; item 4, $16.80, 2⅞ oz.; item 5, $16.80, 106.3 grams; Gra-Ern Products Co., Shreveport, La., item 5, 99.8c; William Messer Corp., New York, item 1, 33c; item 2, 33c; item 5, $156; R. L. Watkins Co., New York, item 5, 67c, ¾ oz.; $1.57, 2 oz.; $3.15, 4½ oz. and $6.29, 10 oz.; and J. B. Williams Co., Glastonbury, Conn., item 1, 35.28c and item 2, 35.28c.

Treasury Furniture Polish Bids

Frank Imperial Products Co., Philadelphia, submitted the low bid on 4,008 quarts of furniture polish in a recent opening for miscellaneous supplies by the Treasury Department Procurement Division, Washington, D. C. Other bidders included C. P. Baker & Co., Philadelphia, 22c a quart; Oil Specialties & Refining Co., Brooklyn, 19.4c a quart; Universal Refining Products Co., New York, $1 a gallon and Wellmaid Mfg. Co., Chicago, 25.5c a quart.

WFA Shaving Sticks Purchase

Five cases of shaving sticks, at $8.73 a case, were purchased from J. B. Williams Co., Glastonbury, Conn., in a recent opening for miscellaneous supplies by the War Food Administration Office of Distribution, Washington, D. C.

Stern 20 Years with MM&R

Milton Stern, assistant sales manager for Magnus, Mabee & Reynard, Inc., New York, perfuming materials firm, was honored by his associates recently upon completion of 20 years with the company. He was inducted into the MM&R 20-Year Club at a dinner at the Hotel Astor. William Fischer, MM&R sales manager, acted as toastmaster.

Hines DuPont Cellophane Mgr.

Thomas L. Hines has just been appointed manager of the Cellophane Division of E. I. du Pont de Nemours & Co., succeeding John E. Hatt who died of a heart attack last month. Mr. Hines was formerly assistant manager of the division.

Stewart Mgr. Columbia Office

I. G. Stewart has just been appointed manager of the new San Francisco office of the Columbia Chemical Division of Pittsburgh Plate Glass Co.

POGOSTEMOL II

Leading manufacturers are more than satisfied with this very effective substitute for Oil Patchouly.

Replaces the genuine on a pound for pound basis.

schimmel

SCHIMMEL & CO., INC.
601 WEST 26TH STREET
NEW YORK 1, N. Y.

NEW TRADE MARKS

The following trade-marks were published in the April issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Mark Applications

RED DEVIL—This in upper and lower case, extra bold script letters for metal cleaning and scouring device. Filed June 30, 1944 by Landon P. Smith, Inc., Irvington, N. J. Claims use since June, 1937.

(A drawing of two bulls with a barrel between the horns)—This for soaps and cleansing and polishing powders for general purposes. Filed Dec. 4, 1944 by The Buellen Chemical Co., Folcroft, Pa. Claims use since Apr. 7, 1919.

PX—This in upper case, bold letters for shaving cream. Filed Dec. 29, 1944 by Day Chemical Co., Newark, N. J. Claims use since Oct. 23, 1944.

KLAREX — This in upper and lower case, bold, Old English letters for dry shampoo oil and cold cream. Filed Jan. 8, 1943 by Klarex Beauty Products Co., Brooklyn. Claims use since May 17, 1937.

SETFAST MIL-DU-RID—This in upper and lower case, script and upper case block letters for household fungicide. Filed Aug. 28, 1943 by Aridye Corp., Fair Lawn, N. J. Claims use since July 9, 1943.

BENTODENT — This in upper case, reverse letters for tooth powder. Filed Jan. 8, 1944 by Chatanooga Pharmacal Co., Chattanooga, Tenn. Claims use since Dec. 17, 1943.

VITA-CLOR — This in upper case, black bold letters for insecticide. Filed Sept. 23, 1944 by Vita-Var Corp., Newark, N. J. Claims use since Aug. 10, 1944.

ORATOL — This in upper case, bold letters for detergent. Filed Nov. 9, 1944 by Jacques Wolf & Co., Clifton, N. J. Claims use since Apr. 19, 1934.

SELLOGEN—This in upper case, bold letters for household detergents and scouring agent. Filed Nov. 9, 1944 by Jacques Wolf & Co., Clifton, N. J. Claims use since Sept. 24, 1943.

PLASTICIDE—This in upper and lower case, bold script letters for chemical preparation for preventing fungus growth in plastics. Filed by Plasticides, Inc., Boston, Nov. 10, 1944. Claims use since Oct. 16, 1944.

PERMO-GLO — This in upper and lower case, bold letters for shampoo. Filed Nov. 16, 1944 by Permo Beautilities Co., Terre Haute, Ind. Claims use since Oct. 18, 1944.

AMPERE—This in upper case, extra bold, black letters for cleansing, deodorizing, detergent and disinfectant. Filed Nov. 16, 1944 by Onufry Danysh, New York. Claims use since Aug. 25, 1044.

BERLOU — This in upper case, extra bold, black letters for mothproofing composition. Filed Nov. 20, 1944 by Berlou Manufacturing Co., Marion, O. Claims use since Dec. 15, 1930.

KAVAN — This in upper and lower case, black, bold script letters with the fanciful drawing of a woman's head in the crotch of the "V" for shampoos. Filed Nov. 28, 1944 by Kay-Evans, Inc., Washington, D. C. Claims use since June 4, 1941.

STARKIST—This in upper case, extra bold, black letters for tooth paste and powder. Filed Dec. 4, 1944 by Starkist Co., San Antonio, Tex. Claims use since Aug. 10, 1936.

CABOT'S — This in upper and lower case, bold letters for liquid or paste hand cleaner. Filed Nov. 22, 1944 by Samuel Cabot, Inc., Boston. Claims use since Nov. 1, 1941.

ABSOPURE—This in upper case, extra bold, black letters for concentrated soap base for washing dishes, woodwork, etc. Filed Dec. 12, 1944 by Milwaukee Lubricants Co., Milwaukee. Claims use since June 14, 1933.

KEYSTONE—This in upper case, extra bold, black letters over an outline drawing of a keystone for rust remover. Filed Oct. 28, 1944 by Keystone Lubricating Co., Philadelphia. Claims use since 1929.

WYCO — This in upper and lower case, extra bold, black script letters for cocoanut oil shampoo. Filed Nov. 28, 1944 by Rocket Products Co., St. Louis. Claims use since Mar. 14, 1944.

NEUTRAXSOL — This in upper case, bold stencil letters for wetting agent for laundering solutions. Filed Dec. 13, 1944 by Lewis National Corp., Boston. Claims use since Apr., 1939.

DURAPROOF — This in upper and lower case, extra bold, black letters for insect repellant. Filed Jan. 1, 1945 by Home Service Co., Deerfield, Ill. Claims use since Nov. 29, 1944.

"444"—This in reverse figures on a black rectangular block for insecticide. Filed Jan. 22, 1945 by A. Bromm & Co., Evansville, Ind. Claims use since June 7, 1944.

DURACLEAN — This in upper and lower case, extra bold, black script letters for liquid soap and cleaning compounds for shampooing rugs, upholsteries and draperies. Filed Jan. 1, 1945 by Home Service Co., Deerfield, Ill. Claims use since July 24, 1943.

STRASCO—This in upper case, extra bold, black letters for a chemical preparation for cleaning pharmaceutical syringes. Filed Nov. 1, 1944 by R. J. Strasenburgh Co., Rochester, N. Y. Claims use since 1917.

CALLO — This in upper case, open letters for chemical compounds to prevent metals from rusting. Filed Nov. 4, 1944 by Minuskin Sales Corp., New York. Claims use since Apr. 1, 1943.

(The fanciful drawing of an Eskimo) for insecticides. Filed Nov. 17, 1944 by Pennsylvania Salt Manufacturing Co., Philadelphia. Claims use since June 25, 1943.

RYANEX—This in upper case, medium letters for insecticides. Filed Dec. 27, 1944 by Merck & Co., Rah-

PQ silicates—cleaning aids

"The value of sodium silicate to the soap industry is well-nigh incalculable . . ." says a prominent soap chemist.

At all times sodium silicates are valuable ingredients because they improve the detergent action of the soap and do so at an economical cost. The "big five" of detergency—wetting, emulsifying, dissolving power, suspension and prevention of redeposition of dirt—are functions regularly contributed by the silicates to household and industrial soaps and cleansers.

Now, when some soap making raw materials are short and substitutions, such as low titre fats, must be made, silicates are even more advantageous, for they improve the body and firmness of soaps.

Toilet soaps also benefit by the use of silicates, where the addition of one percent or less prevents fats from becoming rancid.

And for liquid soaps in which sodium silicate may be objectionable, the soap manufacturer turns to our potassium silicate (trade name Kasil).

Now and postwar, know and plan with the PQ versatile soluble silicates.

PHILADELPHIA QUARTZ CO.
Dept. B, 129 South Third Street, Phila. 6, Pa.
Chicago Sales Office: 205 West Wacker Drive

WORKS: Anderson, Ind. • Baltimore, Md. • Chester, Pa. • Gardenville, N.Y. Jeffersonville, Ind. • Kansas City, Kans. • Rahway, N.J. • St. Louis, Mo. • Utica, Ill.

PQ SILICATES OF SODA

way, N. J. Claims use since Dec. 9, 1944.

DIL-FECTOL — This in upper case, extra bold, black letters for household disinfectant. Filed Jan. 13, 1945 by Dill Co., Norristown, Pa. Claims use since June 17, 1941.

DA-MAR—This in upper case, reverse letters on a rectangular, reverse panel with rules top and bottom for liquid wax and polish for furniture, floors, etc. Filed Sept. 18, 1944 by Da-Mar Chemical Products Co., Bridgewater, Mass. Claims use since 1935.

MAKAH — This in upper case, bold letters that run upwards from left to right between two heavy rules and between two duck-like birds for shoe grease. Filed Aug. 9, 1944 by Alfred Georg, Port Angeles, Wash. Claims use since Apr., 1944.

PERSONALIZED SOAP — This in upper and lower case script and upper case, bold block letters for soaps. Filed Dec. 23, 1944 by General Photo Products Co., Chatham Township, N. J. Claims use since Nov. 1, 1944.

NIT-RO-SOL — This in upper case, extra bold, black letters for washing and cleaning compound for floors, tile, furniture, etc. Filed Jan. 8, 1945 by Carsello Chemical Products, Chicago. Claims use since Aug., 1939.

PALM-TEC—This in upper case, bold, inline letters for protective hand cream. Filed Jan. 25, 1944 by Dagmar Chemical Co., Stamford, Conn. Claims use since Nov. 1, 1943.

ANTIFEXION OIL—This in upper and lower case, bold letters for disinfectant and insecticide. Filed May 3, 1944 by James Mfg. Co., Peoria, Ill. Claims use since Nov. 1, 1928.

LITTLE LADY — This in upper and lower case, bold, script letters for shampoo and bubble bath. Filed Dec. 9, 1944 by Helene Pressl, Inc., New York. Claims use since Oct. 6, 1944.

PROTENE—This in extra bold, upper case letters for shampoo. Filed Jan. 4, 1945 by Lanchere, Inc., Chicago. Claims use since June 1, 1945.

Trade Marks Granted

411,369. Bactericide and fungicide. Filed by Emulsol Corp., Chicago, Feb. 19, 1944. Serial No. 467,562. Published Oct. 31, 1944. Class 6.

411,435. Shampoos. Filed by Household Products Corp., Stamford, Conn., July 22, 1944. Serial No. 472,564. Published Nov. 7, 1944. Class 6.

411,450. Floor wax. Filed by Kwik-Time Products Co., Corona, N. Y., Aug. 17, 1944. Serial No. 473,359. Published Nov. 7, 1944. Class 16.

411,457. Shampoo. Filed by Procter & Gamble Co., Cincinnati, Aug. 28, 1944. Serial No. 473,677. Published Oct. 31, 1944. Class 6.

411,529. Tooth paste and disinfectant. Filed by Scherk Corp., New York, July 17, 1943. Serial No. 462,148. Published Nov. 14, 1944. Class 6.

411,533. Soap. Filed by Samuel Halaby Co., Rochester, N. Y., Aug. 16, 1943. Serial No. 462,769. Published Nov. 14, 1944. Class 4.

411,534. Cleaning and polishing cloths. Filed by Chemitax Products, Philadelphia, Sept. 3, 1943. Serial No. 463,219. Published Nov. 14, 1944. Class 4.

411,535. Silver polish. Filed by John C. Stahlfort & Sons, Inc., Baltimore, Sept. 14, 1943. Serial No. 463,405. Published Nov. 7, 1944. Class 4.

411,536. Cleaning preparations in liquid, paste and solid forms. Filed by John C. Stalfort & Sons, Inc., Baltimore, Sept. 14, 1943. Serial No. 463,405. Published Nov. 7, 1944. Class 4.

411,537. Multi-purpose cleaning preparations. Filed by John C. Stalfort & Sons, Inc., Baltimore, Sept. 14, 1943. Serial No. 463,407. Published Nov. 7, 1944. Class 4.

411,568. Detergents. Filed by General Dyestuff Corp., New York, June 21, 1944. Serial No. 471,475. Published Nov. 14, 1944. Class 4.

411,574. General all-purpose cleaning compound. Filed by Chemical Solvent Co., Dallas, Tex., July 7, 1944. Serial No. 471,971. Published Nov. 7, 1944. Class 4.

411,583. Brushless shave cream. Filed by Hall & Ruckel, Inc., New York, July 26, 1944. Serial No. 472,639. Published Nov. 7, 1944. Class 4.

411,589. Chemical preparation for wood for the prevention by attack of wood boring insects. Filed by Foss & Co., Vineland, N. J., July 31, 1944. Serial No. 472,773. Published Nov. 14, 1944. Class 6.

411,594. Scalp cleanser. Filed by Thomas Impell, Cold Spring, N. Y., Aug. 8, 1944. Serial No. 473,062. Published Nov. 14, 1944. Class 39.

411,662. Soap. Filed by Hewitt Soap Co., Dayton, O., June 16, 1943. Serial No. 461,438. Published Nov. 21, 1944. Class 4.

411,700. Brushless shaving cream. Filed by Medicated Products Co., Chicago, June 29, 1944. Serial No. 471,810. Published Nov. 21, 1944. Class 4.

411,710. All-purpose cleansing and polishing preparation. Filed by Vita-Var Corp., Newark, N. J., July 24, 1944. Serial No. 472,599. Published Nov. 21, 1944. Class 4.

411,714. Soap. Filed by Anna Kiriakos, Detroit, July 28, 1944. Serial No. 472,700. Published Nov. 21, 1944. Class 4.

411,736. Cleansing materials. Filed by Quaker Chemical Products Corp., Conshohocken, Pa., Aug. 29, 1944. Serial No. 473,706. Published Nov. 21, 1944. Class 4.

411,796. Bottled bowl cleaner. Filed by Good Housekeepers Products Co., Hazel Park, Mich., Mar. 24, 1943. Serial No. 459,320. Published Sept. 14, 1943. Class 4.

411,818. Fur cleaning preparation. Filed by J. Roth & Son Co., New York, Feb. 26, 1944. Serial No. 467,792. Published Nov. 28, 1944. Class 4.

411,830. Shoe polish. Filed by Speed Mfg. Co., Roxbury, Mass., May 3, 1944. Serial No. 469,915. Published Nov. 28, 1944. Class 4.

411,890. Spot remover. Filed by H. D. Dunaway Co., Atlanta, Sept. 21, 1944. Serial No. 474,445. Published Nov. 28, 1944. Class 4.

411,991. Antiseptic and germicidal preparation. Filed by L. D. Caulk Co., Milford, Del., July 31, 1944. Serial No. 472,765. Published Nov. 28, 1944. Class 6.

412,001. Toilet soap. Filed by C. S. Welch Co., New York, Aug. 5, 1944. Serial No. 473,001. Published Dec. 5, 1944. Class 4.

412,007. Oil and grease remover. Filed by Marshal Engineering

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EST. 1871

Co., Milwaukee, Aug. 12, 1944. Serial No. 473,218. Published Nov. 28, 1944. Class 6.

412,015. Insecticide. Filed by Vita-Var Corp., Newark, N. J., Aug. 16, 1944. Serial No. 473,352. Published Nov. 28, 1944. Class 6.

412,017. Mildew proofing preparation. Filed by Roxalin Flexible Finishes, Inc., Elizabeth, N. J., Aug. 17, 1944. Serial No. 473,397. Published Nov. 28, 1944. Class 6.

412,028. Shampoo preparations. Filed by Lentheric, Inc., New York, Sept. 2, 1944. Serial No. 473,862. Published Nov. 28, 1944. Class 6.

412,034. Shaving cream and shaving soap. Filed by Lynette Perfumes, Inc., New York, Sept. 14, 1944. Serial No. 373,200. Published Dec. 5, 1944. Class 4.

412,090. Metal cleaning compounds. Filed by W. D. MacDermid Chemical Co., Bristol, Conn., Sept. 18, 1943. Serial No. 463,488. Published Dec. 12, 1944. Class 6.

412,100. Dry alkaline cleansing preparations. Filed by MacDermid, Inc., Waterbury, Conn., Feb. 4, 1944. Serial No. 467,161. Published Dec. 12, 1944. Class 6.

412,101. Dry alkaline cleansing preparations. Filed by MacDermid, Inc., Waterbury, Conn., Feb. 4, 1944. Serial No. 467,162. Published Dec. 12, 1944. Class 6.

412,122. Glass, plastic, etc., cleaning preparation. Filed by Turco Products, Inc., Los Angeles, June 21, 1944. Serial No. 471,496. Published Dec. 12, 1944. Class 4.

412,123. Metal cleaning compounds. Filed by Turco Products, Inc., Los Angeles, June 21, 1944. Serial No. 471,498. Published Dec. 12, 1944. Class 4.

412,129. Insecticides and moth repellent. Filed by Palmer Co., Waukesha, Wis., July 8, 1944. Serial No. 472,014. Published Dec. 12, 1944. Class 6.

412,138. Dentifrice. Filed by Oxford Laboratories, Inc., San Francisco, Aug. 5, 1944. Serial No. 472,991. Published Dec. 5, 1944. Class 6.

412,142. Liquid insecticide spray. Filed by Allaire, Woodward & Co., Peoria, Ill., Aug. 14, 1944. Serial No. 473,240. Published Dec. 5, 1944. Class 6.

412,227. Baby soap. Filed by D'Arcy's, Indianapolis, May 21, 1943. Serial No. 460,791. Published Dec. 19, 1944. Class 4.

412,257. Furniture, etc., cleaner and polish. Filed by The Nufin Co., Lancaster, Pa., June 15, 1944. Serial No. 471,285. Published Dec. 19, 1944. Class 16.

412,262. Soap powders, etc. Filed by Northwest Chemical Co., New York, June 27, 1944. Serial No. 471,716. Published Dec. 19, 1944. Class 4.

412,274. Pine oil compound for house cleaning. Filed by Trio Chemical Works, Brooklyn, Aug. 9, 1944. Serial No. 473,133. Published Dec. 19, 1944. Class 4.

412,276. Metal cleaning preparation. Filed by Oakite Products, Inc., New York, Aug. 24, 1944. Serial No. 473,576. Published Dec. 19, 1944. Class 4.

412,280. Liquid detergent cleaning preparation. Filed by Ethyl Corp., New York, Aug. 29, 1944. Serial No. 473,692. Published Dec. 12, 1944. Class 4.

412,281. Liquid detergent cleaning preparation. Filed by Ethyl Corp., New York, Aug. 9, 1944. Serial No. 473,693. Published Dec. 19, 1944. Class 4.

412,287. Furniture, etc., polishing and cleaning compound. Filed by J. E. Johnson & Co., Cleveland, Sept. 4, 1944. Serial No. 471,891. Published Dec. 19, 1944. Class 16.

412,297. Toilet soaps. Filed by Charles of the Ritz, Inc., New York, Sept. 22, 1944. Serial No. 474,475. Published Dec. 19, 1944. Class 4.

412,304. Soap. Filed by Charles of the Ritz, Inc., New York, Sept. 29, 1944. Serial No. 474,722. Published Dec. 19, 1944. Class 4.

412,305. Toilet soap. Filed by Acme Chemical Co., Milwaukee, Sept. 30, 1944. Serial No. 474,741. Published Dec. 19, 1944. Class 4.

412,402. Metal ant control containers filled with ant poison. Filed by Grant Laboratories, Oakland, Calif., Sept. 30, 1944. Serial No. 473,734. Published Dec. 19, 1944. Class 6.

412,405. Bactericide. Filed by R. J. Strasenburgh Co., Rochester, N. Y., Sept. 1, 1944. Serial No. 473,839. Published Dec. 26, 1944. Class 6.

412,407. Toilet, bath and shaving soaps and shaving creams. Filed by Letheric, Inc., New York, Sept. 2, 1944. Serial No. 473,861. Published Dec. 26, 1944. Class 4.

412,412. Moth proof liquid. Filed by Odora Co., New York, Sept. 11, 1944. Serial No. 474,089. Published Dec. 19, 1944. Class 6.

412,413. Glass cleaning and polishing preparation. Filed by Spray-X Co., Chicago, Sept. 14, 1944. Serial No. 474,211. Published Dec. 26, 1944. Class 4.

412,447. Surface cleaning compound in flake and powder form. Filed by Nivram Mfg. Co., Kansas City, Mo., Oct. 7, 1944. Serial No. 475,047. Published Dec. 26, 1944. Class 4.

412,453. Scouring agents for textiles. Filed by Quaker Chemical Products Corp., Conshohocken, Pa., Oct. 12, 1944. Serial No. 475,270. Published Dec. 26, 1944. Class 4.

412,631. Liquid shampoo. Filed by Alphonse M. Dore, St. Petersburg, Fla., May 3, 1944. Serial No. 469,893. Published Jan. 9, 1945. Class 6.

412,646. Disinfectants, germicides and antiseptics. Filed by Geigy Co., New York, July 25, 1944. Serial No. 472,617. Published Jan. 2, 1945. Class 6.

412,656. Ammonium sulfamate weed killer. Filed by E. I. du Pont de Nemours & Co., Wilmington, Del., Aug. 11, 1945. Serial No. 473,180. Published Jan. 9, 1945. Class 6.

412,674. Automobile, floor, etc., wax polish. Filed by Western Auto Supply Co., Los Angeles, Sept. 14, 1944. Serial No. 474,217. Published Jan. 2, 1945. Class 16.

412,938. Cleaning and detergent material. Filed by Wyandotte Chemicals Corp., Wyandotte, Mich., June 7, 1944. Serial No. 471,012. Published Jan. 9, 1945. Class 4.

412,947. Metal polish. Filed by Palmer Co., Waukesha, Wis., July 8, 1944. Serial No. 472,013. Published Jan. 9, 1945. Class 4.

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RAW MATERIAL MARKETS

As of April 26, 1945

LATEST complete and authentic figures now indicate that production of oils and fats from domestic materials in 1945 may amount to 9.8 billion pounds. In 1944, 10.9 billion pounds of fats and oils were produced from domestic materials. Obviously, then, from the foregoing, unless a radical change in the import situation is effected, the stringency with regard to the fats and oils situation will continue for at least the balance of the year. Judging by our experiences in importing materials from liberated areas of Africa and Europe, little hope can be held out for early receipt of badly needed coconut oil or copra from the Philippines and other Pacific islands. It is from this direction that any relief of the oils and fats supply situation in this country will probably have to come. Balancing possible increases in exports of fats and oils are corresponding exports of oils both as foodstuffs and in finished products, especially soap, for European rehabilitation and relief. From the all-inclusive nature of the destruction of material resources that has taken place in most all European countries in the immediate past and the present continuing destruction in Germany and adjacent countries, we can derive some idea of the size and scope of the relief job facing us in Europe. Any post "V-E" day reduction in the needs of the Armed Forces in the European theatre of operations will be quickly supplanted by the needs of the relief and administrative agencies in those areas.

Lard Stocks Again Drop

Lard, or rather the absence of it, continues to make news. On April 1, according to reports from Chicago, a government estimate put total lard holdings at 51,000,000 pounds. Stocks dropped by some 14,000,000 pounds during March. A year ago there were 432,000,000 pounds of lard in stock. The present low supply, packers are reported as saying, is far below a safe working margin and it will be late in the fall before production shows much of an increase. One reason for the current tight lard situation is that farmers are believed to be holding back hogs from market so the animals can consume as much low grade feed as possible. Chicago stocks of lard on April 15, aggregated 4,340,000 pounds, an increase of 351,000 pounds during the first half of the month, and compared with 73,000,000 pounds a year ago. The greater part of the stocks is held by packers, according to ware-

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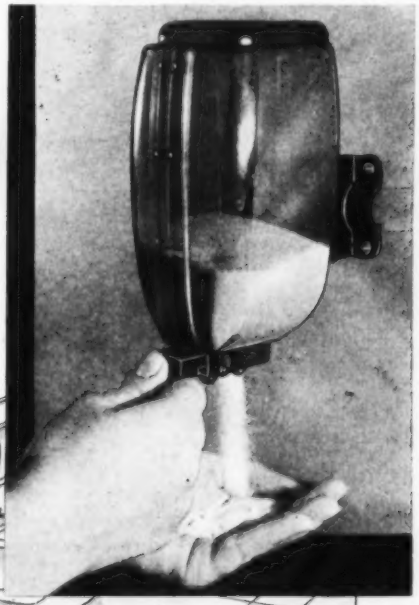

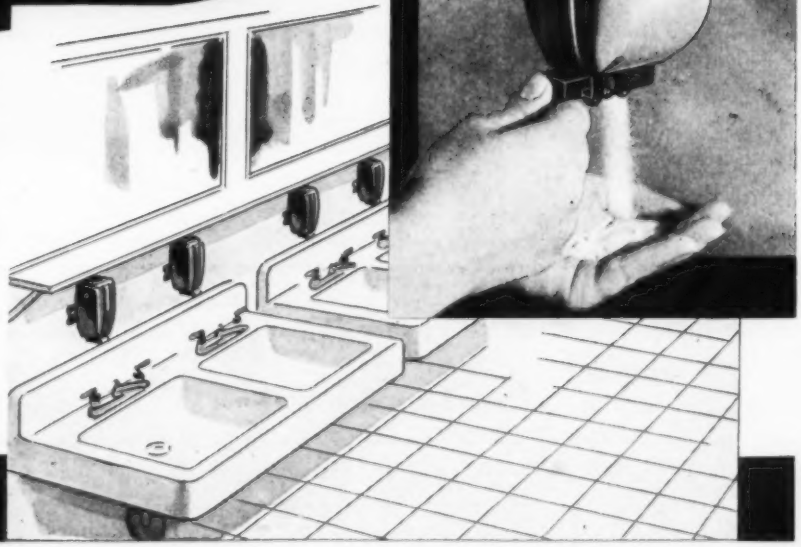

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CHEMICALS INDISPENSABLE TO INDUSTRY AND VICTORY

house men. Packers are said to be allocating their production to spread the small supply as far as possible.

No Carnauba Price Change

The Office of Price Administration announced late in April that maximum purchase prices paid by importers of carnauba wax will not be increased. Brazilian carnauba wax is still in very short supply, and although current ceilings are about 300 per cent higher than prewar prices, according to the OPA, importers are said to have expressed the feeling that an advance in price might tend to increase imports of the wax. According to the OPA, however, an investigation of the Brazilian primary market by interested United States Government agencies has shown that only a limited part of this year's crop remains to be sold. For that reason the OPA is of the opinion that an upward revision of prices would not alleviate the situation. The reasons for the scarcity, the OPA explained, include several adverse conditions, among which is the fact that the 1945 crop is exceptionally poor. It was also pointed out that recently a shipment of almost 700 tons of carnauba wax was lost at sea.

Essential Oil Developments

In addition to a lack of precise information as to what French perfuming materials are available or can be made available in the near future, other factors are now beginning to complicate an already over-complicated situation. Some shipments of what are believed to be small quantities of French essential oils could be made presently according to information made available by a representative of the U. S. Department of Commerce. A major portion of French oils on hand there will undoubtedly go to French perfume manufacturers it is believed. However, a further factor to be borne in mind in connection with the purchase of French oils is foreign exchange. A discrepancy in the exchange rate is said to exist with the State Department maintaining that two cents is the value of the French franc, while the actual going rate of exchange in France is one-half cent. The end result of this "double-standard" condition seems to be that perfuming materials in France cost more than permitted OPA ceilings in this country.

—— • ——

Bristol-Myers Earnings Up

The annual report of Bristol-Myers Co., New York, just issued, shows total sales of $34,455,624, an increase of about 20 per cent over 1943. Earnings in 1944 were $8,391,608, 10 per cent above the 1943 earnings. The report states that two new research laboratories were established during the year at Newark, N. J., one at the Rubberset plant devoted to research on paint brushes, and the other at the William Peterman plant which is working on improvements to the Peterman insecticide line for post-war application.

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Fire at Lightfoot-Schultz

Fire at the Hoboken, N. J., warehouse of Lightfoot-Schultz Co. recently destroyed two buildings, with a loss estimated in newspaper accounts at $200,000. A substantial stock of soaps and cosmetics was destroyed.

The Swing is to Nuchar!

ACTIVATED CARBON

The swing is to Nuchar Activated Carbon because it removes *by adsorption* the impurities that affect oil and soap production. Nuchar has many other advantages that make it first choice of carbons in the purification field. Nuchar Activated Carbon has long been used for purification of edible fats used for the manufacture of shortenings, salad oils, etc., where color, odor and keeping qualities are of prime importance.

Nuchar Activated Carbon is ever growing in popularity as a means of purification of inedible fats for soap manufacture. This popularity is due to the fact that a Nuchar treated fat produces a soap of improved stability, as measured by odor, color reversion and spotting. Tests in our laboratories indicate that Nuchar Activated Carbon has practically unlimited possibilities for the economical removal of impurities. To anyone interested in improving methods of processing by means of activated carbon, the services of our Carbon Research Laboratory are available.

Nuchar Activated Carbons ★ *Abietic Acid* ★ *Snow Top Precipitated Calcium Carbonate* ★ *Liquid Caustic Soda* ★ *Chlorine* ★ *Lignin* ★ *Liqro Crude Tall Oil* ★ *Indusoil Distilled Tall Oil* ★ *Tall Oil Pitch* ★ *Sulphate Wood Turpentine*

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PRODUCTION SECTION

Dishwashing Compound Tests

THIRTY-SIX dishwashing compounds, including commercial proprietary products for machine dishwashing, and experimental formulations, were tested by washing glass squares soiled with a standard soil mixture consisting of 2 parts of peanut butter, 1 part of hydrogenated vegetable shortening, and 1 part of butter. The compounds were various mixtures of the common alkalies, including sodium hydroxide, carbonate, silicates, trisodium phosphate, borax, sodium bicarbonate, sesquicarbonate, tetrasodium pyrophosphate, sodium tripolyphosphate, tetraphosphate and hexametaphosphate. Synthetic detergents or wetting agents are sometimes incorporated with the alkalies, but the use of too great a proportion of these materials is prohibited because of excessive foam produced in the dishwashing machines.

The extent of soil removal was measured by the proportion of incident light scattered by the washed glass surface. The incident light was kept constant in intensity, and measurements were recorded as galvanometer deflections, which may be assumed to be proportional to the intensity of the scattered light.

Nine out of the 36 compounds were considered satisfactory in performance. The composition of these was as follows, listed in decreasing order of effectiveness:

Composition, % by weight					
Na_2O	P_2O_5	SiO_2	CO_2	H_2O	pH
47.6	27.3	17.8	4.9	0.5	11.9
35.9	24.2	11.1	—	19.6	11.6
35.6	30.3	8.0	0.6	20.7	11.4
40.5	38.0	7.5	0.4	10.9	11.1
46.3	19.6	4.6	18.0	12.1	11.2
34.7	27.4	15.1	9.7	11.3	11.3
41.7	22.4	8.1	15.4	8.9	10.5
45.2	16.6	1.3	20.1	12.5	11.0
42.3	25.0	9.9	9.3	13.0	10.5

The compounds are all quite strongly alkaline. Results of tests for corrosiveness to aluminum showed that the most corrosive compounds were those containing no silicates—none of those included in the above table. A minimum silicate content equivalent to 8 per cent of SiO_2 was found to inhibit corrosion adequately.

Results of practical dishwashing tests in a mess hall furnished confirmation of the laboratory tests. Those compounds which had been judged effective from the laboratory tests gave clean, bright dishes and maintained the dishwashing machine in a clean, scale-free condition. Effective concentrations of the compounds in the laboratory tests were 0.1 and 0.25 per cent in soft water, and 0.25 and 0.5 per cent in hard water; the higher concentration was slightly more effective in each type of water.

Based on the results, suitable composition requirements for dishwashing compounds are:

	% by Weight	
Constituents	*Min.*	*Max.*
Moisture	—	25
Alkali as Na_2O	30	45
Phosphates as P_2O_5	20	—
Silicates as SiO_2	8	—
Carbonates as CO_2	—	20
Insoluble matter	—	1
Total of P_2O_5, SiO_2, CO_2	35	—
Total of Na_2O, P_2O_5, SiO_2, CO_2	70	—

Approximately these same requirements have been employed in a Navy Department Specification for dishwashing detergent. R. C. Hughes and R. Bernstein. *Ind. Eng. Chem.* 37, 170-5 (1945).

Rinsing Studies

Rinsing after application of detergents has received very little attention, largely from lack of convenient methods for studying it. However, a recent conductivity method developed by Liddiard & Harwood makes possible a comparison of the rinsing properties of various alkalies. Considerable improvement in rinsing caustic alkali from glass surfaces was noted on addition of sodium hexametaphosphate, a previously unrecognized property of this material. *Manufacturing Chemist* 16, 108 (1945).

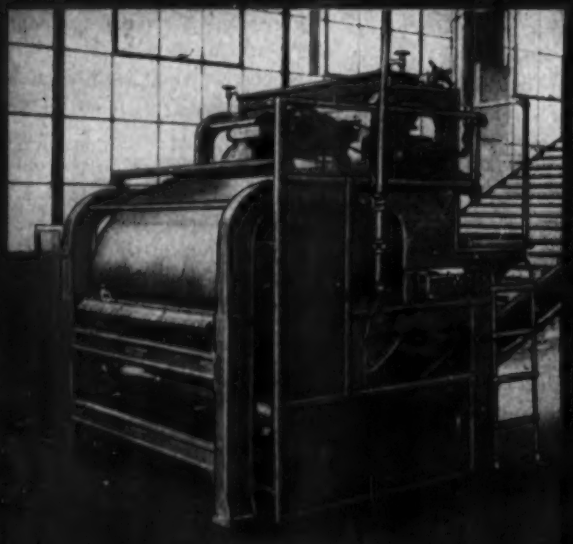
Detergents for Dentifrices

For tasteless and odorless detergents for use in dentifrices, the alkyl esters of monocarboxy aromatic sulfonic acids and their salts are used. The preferred esters are those of sulfobenzoic acids and of sulfosalicylic acid. Suitable alkyl radicals are octyl, nonyl, decyl, etc. Straight alkyl chains are preferred. A suitable composition for a tooth paste is glycerol 23.56 parts by weight, water 21.26, calcium chloride 0.87, calcium sulfate 89.5, gum tragacanth 1.09, saccharin in aqueous solution, 0.22, oil of peppermint 1.15, tetrasodium pyrophosphate 3.58, and dodecyl ortho-sulfobenzoate sodium salt 4.47 parts. E. W. Gluesenkamp and M. Kosmin, to Monsanto Chem. Co. U. S. Patent No. 2,359,291.

Soybean Treatment

Soybean meal is first subjected to extraction with a fat solvent to remove the fat component. It is then subjected to extraction with a 35-60 per cent aqueous solution of a monohydric alcohol with which an extract of a gummy character is obtained and a material consisting mainly of edible, albuminous and carbohydrate material is left as a residue. R. Lant. British Patent No. 555,636.

Sargent's latest . . .
SOAP CHIP DRYER



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Detergents for Sea Water

IN the Army mobile laundry units, varying conditions of hard water are encountered, and in the Navy, washing must often be done in sea water. Good results have been obtained by the use of a combination of soap, builders, and synthetic detergent such as dodecyl benzene sodium sulfonate ("Santomerse No. 1" containing 40 per cent of active ingredient, and "Santomerse No. 3" containing 99 per cent of active ingredient).

Launderometer studies of such products show that optimum results are produced at an 0.8 per cent concentration of "Santomerse No. 1," and a 0.32 per cent concentration of "Santomerse No. 3" in extremely hard water. Turbidity data indicate that decyl benzene sodium sulfonate ("Santomerse D") is a slight improvement over the dodecyl product.

"Santomerse" combined with trisodium phosphate, tetrasodium pyrophosphate or a 65:35 mixture of tetra sodium acid pyrophosphate, yielded detergent results superior to those obtained with "Santomerse" alone. The combinations producing optimum detergency were as follows:

	Percent
1. "Santomerse No. 1"....	0.2
Builder	0.2
2. "Santomerse No. 3"....	0.08
Builder	0.2

The "Santomerse" products by themselves are poor sea-water detergents.

The pH of a solution of the Bureau of Ships Ad Interim Specification 51D7 bar containing 30 per cent of anhydrous, salt-free soda soap and 20 per cent of anhydrous salt-free synthetic detergent, has a marked effect on detergent results, especially at 140° F. For optimum detergency the pH should approach 10 as closely as possible. The concentration of the 51D7 bar which gives best results is 2 per cent.

"Santomerse" and tetrasodium pyrophosphate are poor detergents in sea water but much improvement occurs when these are combined with soap. The optimum detergency ratios of soap to synthetic are:

"Santomerse No. 1".....	0.33
"Santomerse No. 3".....	1.50

The optimum detergency ratio for tetrasodium pyrophosphate: "Santomerse" regardless of the content of active ingredient is about 1. Soda ash is another alkaline soap builder which will produce the same increase in detergent effect as tetrasodium pyrophosphate, with a ratio of soda ash to active ingredient of the synthetic of 0.67. J. C. Harris. *Rayon Textile Mo.* 26, No. 2, 83-6; No. 3, 104-6 (1945).

◆

Surface-active Agents

The properties of industrial importance in surface-active agents are wetting, detergency and emulsification. Turkey-red oil has good wetting but poor detergent properties because the sulfate group in the middle of the chain reduces the effective hydrophobic or hydrocarbon-chain length. Sulfonates, RCH_2SO_3Na, have useful wetting but poor detergent properties and the calcium salts are not soluble. Sulfates or sulfuric-acid esters, RCH_2OSO_3Na, have good wetting and detergent properties. In some cases the sodium salts of sulfated secondary alcohols, $R(R')CHOSO_3Na$, are still better. The $—OHO_3Na$ group near one end of the chain balances the effective chain length.

Commercial products contain hydrophobic groups of various lengths so that the advantages of good wetting and good detergency are combined. The sulfates of secondary alcohols reduce the surface tension of water to 35 dynes per cm. and the interfacial tension of an aqueous solution against oil and solvents to about 5 dynes per cm. Addition of electrolytes reduces interfacial tension and markedly improves detergent properties. Added cations neutralize the charges and improve detergency.

Some applications of these synthetic detergents are wool scouring, level dyeing of wool, silk, cotton and furs, kier boiling of cotton, lime-soap dispersion, bleaching with hypochlorite, degumming of silk, scouring of rayon under neutral conditions, scouring off of textile lubricant oils, resin impregnation of fibers for waterproofing and creaseless finishes, soaking and scouring of skins, the preliminary soaking of hides, wetting of chrome-tanned leather before dyeing, selective wettability in ore flotation, use in the paint industry, in pigment grinding, improvement of spreading power and penetration of synthetic adhesives, dispersion of polyvinyl chloride, stabilization of natural and synthetic latexes, artificial dispersion of reclaimed rubber, use in electroplating baths, aqueous degreasing of metal, acid pickling and soldering fluxes.

The sulfates of secondary alcohols are not good emulsifying agents, because of low oil solubility but become so when used in combination with cholesterol or other alcohols of high molecular weight. E. S. Paice. *J. Oil & Colour Chem. Assoc.* 27, 189-202.

◆

Book on Formaldehyde Chemistry

The first English language book on the chemistry of formaldehyde, by Dr. J. Frederic Walker, of the technical division, Electrochemicals Department, E. I. du Pont de Nemours & Co., Wilmington, was published recently by Reinhold Publishing Corp., New York. This systematic and critical account, No. 98 in the American Chemical Society's Monograph series, sets forth the numerous scientific advances which have been made in this field. "The growing importance of formaldehyde as a commercial chemical, its many unique characteristics, and its varied applications, have created a definite need for the (400 page) book," Dr. Walker says in the preface.

◆

Brochure on Chemical Consultant

A completely revised edition of the Foster D. Snell, Inc., brochure: "The Consulting Chemist and Your Business" has recently been published and copies are obtainable by writing the company at 305 Washington St., Brooklyn 1. Following a brief outline of the type of business enterprise which finds continual or occasional use for the services of consulting chemists, the booklet deals with the various branches of service offered.

Each Day Is One Day Nearer To The End Of The War

We don't know when it will be possible to deliver them, but we are listing orders for

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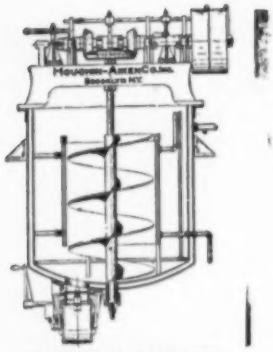

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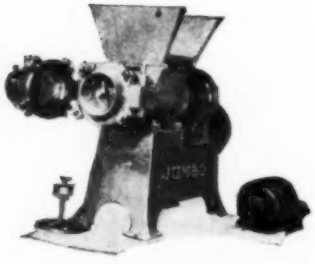

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for milling toilet soap ribbons and for producing finished bars.

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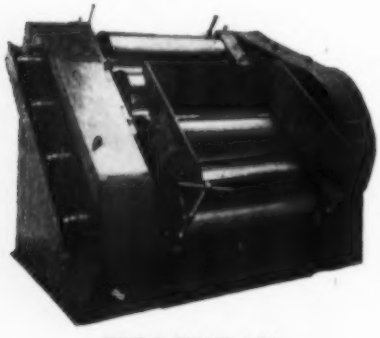
Capacity 60/120 frames per day.



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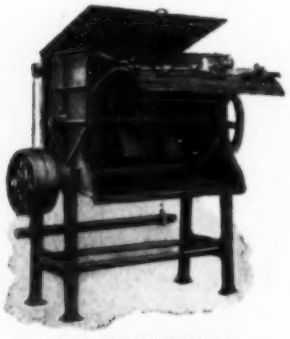
includes machinery for making all kinds of —



IDEAL AMALGAMATOR
so designed that soap can be emptied into hopper of mill or plodder.

LAUNDRY, TOILET, CASTILE and SCOURING SOAPS by boiled, half boiled or cold process.

Equipment for new or remodeled plants

HOUCHIN MACHINERY CO.

Manufacturers of Soap Making Equipment

SIXTH AND VAN WINKLE AVES. HAWTHORNE, N. J.

PRODUCTION *Clinic*

By DR. E. G. THOMSSEN, PH.D.

GOOD housekeeping is a criterion of good management. Several years ago I went through a small soap plant that was extraordinarily clean and orderly. Upon inquiring from the superintendent how it was possible to keep a factory that uses such notoriously greasy, sticky and dirt-forming substances as oils, fats and rosins, free from the usual litter and cakes of dirt on the floors particularly, I received a wise answer. It was, "I never let it get dirty." This reply always stuck with me and it was applied in factory cleanliness whenever possible. It was not surprising that it worked. This policy was augmented by another. This one was, that no matter how clean a plant was, to complain periodically in a constructive way about some evidence of disorder or uncleanliness. Such procedure also brought results and it was noted that often, in making the factory rounds, an employee would hurry to pick up a scrap of paper or straighten around some article before it was observed.

The creation of the proper attitude toward cleanliness is of prime necessity in keeping a plant clean. Maintenance men and porters especially in these days of labor shortage, cannot do good work alone. They need the cooperation of all the employees. Not only can the desired neatness be obtained by methods such as just mentioned, but other means are necessary. Of these, one of the more difficult is to lift the porter's job out of the menial class. It has become the custom to look down upon the workman or woman

who has the important job of cleaning up factory floors, locker rooms and wash rooms. Much of this is due to improper emphasis upon the importance of the job and often an insufficient wage is paid for the work. It is poor economy to stint on cleanliness which is very important to the welfare, efficiency and comfort of all factory employees. Putting a uniform or a cap marked "Porter" on the workman often makes him feel the more inferior to fellow employees who dress in ordinary clothes. In certain regards much was learned from the best factory porter I ever contacted. This man had formerly been a mechanic's helper, but had become incapacitated so he could not do heavy work steadily. He preferred a porter's job to an elevator job, he said. It was given him and his work stood out among that of other men doing the same type of work. He was consulted upon how to improve the appearance of all the plants and raise the standard of the other porters. Some constructive suggestions resulted. The first was to give the porters some degree of authority over employees to command more respect. This was done in several ways. They were assigned to watch the time clocks, they were given the right to reprimand employees infracting cleanliness rules. When they went into the wash rooms and locker rooms, the foremen or forewomen spent a short time with the porter on each visit, checking up conditions and lending a hand as an example to show their interest and at the same time to indicate the tasks were not too menial for the boss to do. Competition on various floors was instituted to see who could keep the neatest and cleanest quarters. A pride for cleanliness was established and the rest of the clean-up crew improved in efficiency. They were no longer looked down upon but became an important part of factory organization.

Proper equipment and supplies are still another means of increasing plant cleanliness. In many plants one finds a few dirty cleaning utensils parked in some dirty, dark corner or cupboard as though one was ashamed to own such things. Good and efficient work tools for factory sanitation and cleanliness are nothing to be ashamed of. It is amazing that the very articles used to clean up with, frequently are so obsolete and often filthy, that they breed dirt rather than remove it. In the field of sanitary chemicals, cleansers and utensils used, much education is still necessary in many plants, large and small, to emphasize their importance. Shabby equipment and supplies are like a shabby dress and unkempt person. They hardly permit one to shine forth in splendor and make one feel second rate or junky. To do a good job in plant sanitation the best and most efficient equipment and supplies should be at hand. Automatic floor scrubbers, properly covered cans, good industrial vacuum cleaners, efficient sweepers and good brooms and brushes, as well as other cleansing equipment, are good

IT'S UP TO YOU TO HELP MAKE 2=3 WITH...

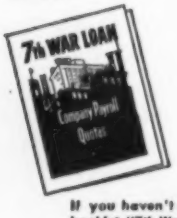
A job for seasoned executives—this 7th War Loan! Especially when we've got to make 2 war loans total just about as much as all 3 in 1944! Putting this over demands the combined and *continued* efforts of the "No. 1" men of American industry.

This means marshaling your plant drive to make every payday—from now 'til June 30th—do its share toward the success of the 7th. Directing the drive is not enough. It's equally important to check to see that your directions are being carried out—intelligently!

For example, has every employee had:

1. an opportunity to see the new Treasury film, "Mr. and Mrs. America"?
2. a copy of "How To Get There," the new Finance Division booklet?
3. a new bond-holding envelope with explanation of its convenience?
4. 7th War Loan posters prominently displayed in his or her department?
5. information on the department quota—and an urgent personal solicitation to do his or her share?

Remember, meeting—and beating—your highest-yet 7th War Loan quota is a task calling for "No. 1" executive ability. Your full cooperation is needed to make a fine showing in the 7th! Do not hesitate to ask your local War Finance Chairman for any desired aid. It will be gladly and promptly given.



If you haven't a copy of this important booklet, "7th War Loan Company Quotas," get in touch immediately with your local War Finance Chairman.

The Treasury Department acknowledges with appreciation the publication of this message by

SOAP AND SANITARY CHEMICALS

★ *This is an official U. S. Treasury advertisement prepared under the auspices of Treasury Department and War Advertising Council* ★

investments. A clean orderly plant brings big returns in greater efficiency of the production or office crew. Health is improved and a certain pride in work results.

Chemical Stoneware

It is hardly necessary to point out the difficulties that confront the prospective buyer in obtaining iron or steel equipment in war years. Fortunately, in many cases, it is possible to substitute chemical stoneware, which is considerably easier to get. Some of those who have purchased ceramic tanks, pots and other stoneware equipment have learned more regarding its usefulness. Besides being chemically inert to practically all chemicals, except hydroflouric acid and hot caustic alkalis, it is non-contaminating and inexpensive.

The U. S. Stoneware Company of Akron, Ohio, long has been a leading manufacturer of corrosion-proof, chemical plant equipment and construction materials. Their products include a complete line of ceramic chemical equipment like valves, cocks, pumps, cooling coils, piping and filters. They also make laboratory sinks, tank linings, Tygon paint for protection of equipment, flexible tubing and acid and alkali cements. In 1943 they developed Ceratherm 300, a new ceramic body which withstands high heat and sudden temperature changes. This is also stronger than ordinary chemical stoneware, possesses high heat conductivity and low porosity. This company's recently issued Bulletin 405 on storage and mixing equipment is to be had by writing them at Akron.

Heat Circulator

The past winter has been one of considerable anxiety regarding supplies of fuel for light, heat and power. Considerable fuel may be conserved by the use of proper heating equipment. The use of unit heaters in this regard is a big improvement in heating, particularly for large rooms and lofts, through proper circulation of air. The Reynolds Electric Company, Chicago 12, Ill., last year anounced their "Reco" heat circulating fan which exhibits a number of interesting new features, and is said to furnish more heat with less fuel.

This fan is suspended downward from the ceiling where the warmer air rises. It blows this warmer air upwards along the ceiling down the sidewalls and then up the center of the room again. Through this circulation route a uniform temperature is produced through the room and less fuel is required to maintain a comfortable temperature. Not only is this desirable condition attained but the fan dissipates smoke, dust and odors, produces warmer floors, and keeps windows clean. It undoubtedly can be used to cool in the summer if desired. This is a good time to plan for heating problems for next winter. We are informed these fans can be supplied for industrial uses, without priorities, by the use of Form WPB 541.

Mineral Oil for Air-Borne Infections

L. Sonneborn Sons, Inc., New York 16, recently sent us "Current Topics No. 61." This bulletin discusses a novel use for white mineral oil in laying dust to prevent air-borne diseases through the circulation of dust, in closed army quarters especially, during sweeping up and as beds are made. When the floors were oiled with a 1 per cent to 2 per cent white mineral oil emulsion, and the emulsion applied to the blankets, the bacterial count in the barracks was reduced by 90 per cent and a significant reduction in acute respiratory infections was reported. This bulletin points out that further improvements in this regard could be achieved if the mattresses and pillows were sprayed by plants handling the cotton stock with their "Klearol" white mineral oil which leaves a thin non-greasy film on the cotton material.

Kiefer Equipment

Our experience with Karl Kiefer Equipment extends over many years and it has always been more than satisfactory. As this is written we have before us their very attractive catalogue on vacuum fillers and air cleaners.

In this catalogue Kiefer Machine Co., points out that since 1891 they have been thinking in terms of quality equipment. This results in finished assemblies that function smoothly and have long productive life. It describes in great detail the construction and operation of full automatic 32 stem rotary liquid vacuum fillers, down to two stem hand vacuum fillers. The half tones which illustrate the catalogue as well as the blue print layouts are striking and informative. In the same catalogue are described their air bottle cleaning machines and combination cleaning and filling machines. Lists of companies with "Kiefer-built" installations are given and clearly illustrated.

The reputation of this company is well established in the fields of container and cleaning machines, filling machines, corking machines, capping machines, conveyors, packaging tables, filters, pumps and percolators. Large or small manufacturers handling liquids or viscous materials will find it advantageous to investigate Kiefer's machinery and equipment by writing them at Cincinnati.

Spraying Equipment

The Food Machinery Corporation whose executive offices are in San Jose, Calif., specializes in a variety of well known machinery and equipment. Some of this includes the "Bean" high pressure spray pumps for spraying and dusting insecticides and "Peerless" pumps for industrial purposes. They also make and market a well known line of insecticides and fungicides through one of their subsidiaries.

Issue Machinery Catalog

First Machinery Corp., New York, has recently issued a new 96-page catalog in color describing the types of used machinery which the company has available. A two-page section is devoted to soap machinery, among the machinery shown being crutchers, driers, presses, kettles, frames, wrapping machine, soap slabber, etc. Copies of the catalog, No. 45, are available by addressing the company at East 9th St., and East River Drive, New York 9, N. Y.

Thank You

We appreciate the words of appreciation that have been written and spoken to us regarding this column. Criticism and suggestions are invited. It is our object to be helpful and cooperative. Let us hear from you be it good or bad!

Shaving Cream Manufacture

The manufacture of shaving cream, like most paste products containing soap, is not simple. Unfortunately when packaged in tubes, minor defects like moisture separation, air pockets, curdling, lumps, and lack of homogeneity in color, are very evident as the cream is squeezed out of the tube. Because of this, unusual care should be followed in manufacturing operations. Some manufacturers permit the finished cream to stand as long as a month before filling so they may be more certain of the consistency. This is not necessary if the product is carefully controlled by chemical analysis. The cream may be made one day and packaged the next.

Where creams are made in quantity, the boiling process rather than semi-boiling has a number of advantages, resulting in a more uniform cream with a better appearance. A formula for this process is the following:

	Parts by weight
Coconut oil (Cochin grade)	99
Tallow (prime beef)	99
Glycerine C.P.	150
Caustic soda solution (20° Be.)	198
Caustic potash solution (20° Be.)	1005
Distilled water	550
Stearic acid (double pressed)	825
Boric acid	27
Perfume	15

The fats, glycerine, soda lye, and 200 parts of the potash lye, are heated with agitation until saponification is complete. The rest of the potash lye is added with stirring. Add 520 parts of water. Melt the stearic acid in a separate kettle, strain through cloth and add to the mass in a thin stream. The cream stiffens. It is brought to neutrality by tests on small samples. The boric acid is added dissolved in 30 parts of hot water, which causes the cream to soften. Agitation continues until the cream is smooth. A sample is cooled rapidly and titrated for free fatty acid. It should contain 3-4 per cent, calculated as oleic. The total fatty-acid content should be 32-4 per cent.

Cold water is run through the jacket of the kettle and agitation continued over night. Perfume is added with mixing. The cream may be stored in covered tubs for weeks if desired, but it will require mixing again before going to the filling hopper. E. G. Thomssen. *Drug & Cosmetic Ind.* 56, No. 1, 44-6 (1945).

Study Home Washing Costs

Virginia Agricultural Experiment Station, Blacksburg, Va., has issued a bulletin, No. 361, under the title "Home Laundry Investigations," which reports results from tests in a washing machine of muslin treated with a standard soil solution, to evaluate the influence of various factors in washing. Regarding soaps tested, the bulletin states that they were "the kinds in general use for home laundering with a wide range of prices, resulting in costs of 1½ cents to 3 cents per machineful of clothes (with softened water). "Laundry cake soap was found to be the cheapest and granulated soap in packages the most expensive."

When used for softening water, says the bulletin, "the cheapest cake soaps were more effective than the purer soaps, but any soap proved an expensive means of softening the water (¼ to 3 cents per machine full). Sal soda and other special water softeners cut the cost of water softening to a negligible figure."

Total Lipides

Extraction of lipides from dried plant or animal tissues by ether or petroleum ether is often incomplete because a part of the phospholipides is chemically bound to protein. A preliminary boiling with 10 per cent aqueous hydrochloric acid, followed by drying, makes all the lipides ether extractable but introduces a serious error since it hydrolyzes the phospholipides and glycolipides. This leaves only the fatty acids to be extracted by the ether while the remainder of the fission products such as phosphoric acid are insoluble in ether. Correct maximum values are obtained by first refluxing the sample several hours with 20 parts of 95 per cent methanol then evaporating to dryness and extracting with ether. R. Reichert. *Helv. Chim. Acta* 27, 961-5; through Chem. Abs.

Modern Detergents

The study of detergency is complicated by the fact that there are so many different kinds of dirt which vary greatly in ease of removal and by the fact that the material which is being cleaned also plays a part. Surface-active substances are characterized by the presence in the molecule of a water-attracting and solubilizing group which is often highly polar, associated with a nonpolar water-resisting portion, represented by RS where R is a hydrocarbon and S is a solubilizing group. A great deal of knowledge has been accumulated by varying R and S.

Generally a necessary condition for the product to be outstanding in some kind of surface activity is the structure of R, although given this condition, the strength of the solubilizing group is next in importance in determining whether surface activity is developed to a maximum. Important variations in properties are possible by varying the nature of the solubilizing group as these variations generally determine whether the product is suitable for use under particular pH conditions or is compatible with other reagents which may be present.

Nonionic agents are represented by long-chain alcohols condensed with ethylene oxide. The greater the amount of ethylene oxide which is condensed, the more soluble the product becomes, while the oil solubility is diminished. Unlike the long-chain products solubilized by means of polar groups, nonionic agents have low affinity for fiber.

The presence of common salt often improves detergency and wetting power. Detergency in sea water is a study by itself. C. Dunbar. *Chemistry and Industry*, No. 2, 13-14 (1945).

New Wetting Agent

Advance Solvents and Chemicals Corp., New York, announce the production of "Advawet 15," a sodium hydrocarbon sulfonate specially purified, containing no oil and only a trace of inorganic salts. It is a light brown paste readily soluble in water and fairly soluble in acetone and toluene. Its aqueous solutions are said to foam well.

ADVERTISEMENT—*This entire page is a paid advertisement.* *Prepared Monthly by U. S. Industrial Chemicals, Inc.*

U.S.I. CHEMICAL NEWS

May ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1945

SO_2 Household Fumigant Prepared with Acetone

In spite of its many desirable qualities as an insecticidal fumigant, sulfur dioxide has always been hard to handle because it is a gas at ordinary room temperatures. Mixed with acetone, sulfur dioxide becomes a definite liquid compound, whose vapor pressure is sufficiently low to allow it to be packaged in ordinary tin containers. Furthermore, a mixture of 1 part acetone with 1.9 parts sulfur dioxide, by volume, is non-inflammable in all concentrations in air. This liquid is stable while confined, but upon exposure to air decomposes and becomes progressively volatile.

In tests, the liquid was absorbed in diatomaceous earth pellets, and a quantity of these pellets was exposed in a room containing the test insects. The compound, when evaporated into the air, was lethal to the insects, which included bedbugs, flour beetles and carpet beetles. Treatment was harmless to wallpaper, white and colored fabrics, painted surfaces and metals.

Apparently the acetone-sulfur dioxide compound holds possibilities as a commercial fumigant, and will bear further investigation.

How to Make 2 = 3

This year, Washington reports, there will be *only two* War Loan drives, not three. But the total need is no less. For the Battle of Japan has just begun — and it's going to be a lot tougher and longer than many of us expect. So — let's stretch 2 into 3 by buying *bigger extra bonds* in this, America's Big Seventh War Loan drive.

Thermal Conductivity of Normal Alcohols

Recent studies at an eastern university have determined several new figures for the thermal conductivity of normal alcohols at 30 C. They are as follows:

Alcohol	*New figures*	*Others*
Methyl	0.00050	0.000503
Ethyl	0.00041	0.000433
n-Propyl	0.000380	0.000409
n-Butyl	0.000365	0.000400
n-Amyl	0.000365	0.000388

Pharmaceutical Lactones Yielded by New Process

Structurally complicated lactones, such as the cardiac poisons of the digitalis, strophanthus and squill series, may be prepared from easily-available products by a process discovered by a Swiss scientist. Basically, the process comprises condensing saturated or unsaturated lactones which are substituted by halogen with carbonyl compound. The condensing agents suggested include metallic alcoholates such as sodium ethoxide. Ether, acetone or both also enter into each of the four processes given as examples.

New U. S. I. Liquid Insulation Has Wide Range of Uses

Product Exhibits Remarkable Ability to Protect Electrical Systems from Moisture, Wet Weather and Many Acids

A unique insulating material which has won wide acceptance as a protector of electrical systems in automotive and amphibious combat equipment has been added to the list of products of U. S. Industrial Chemicals, Inc., according to a recent announcement. While the new product, trade-named PiB Liquid Insulation, will make an ideal companion product for the company's Super-Pyro Anti-Freeze in the automotive field, the company expects extensive expansion of PiB's market in the farm, marine and industrial fields.

This motor was removed from an oil burner in a flooded cellar where it had been "drowned out". PiB was sprayed into the motor and in a matter of minutes the motor was running smoothly. To test the "staying power" of PiB, the motor was then submerged in soapy water, where it has been running, intermittently, for two years without a hitch.

Long-Lasting Protection

The new product is described as a liquid with powerful penetrating action and high resistance to the action of water, ordinary acids, oils and greases. Its viscosity is low enough so that it flows freely into hard to-get-at nooks and crannies and can be easily applied by brush or spray. Good water-repellent properties coupled with a strong "wetting" action enable PiB to undermine and displace water which may be present in the wiring system or on insulating surfaces. PiB has a dielectric strength of 4000 volts per mil; its protective qualities, under normal conditions, last for a minimum of six months.

War-Tested

Ignition systems on amphibious combat equipment are subjected to the severest kind of conditions. Salt spray and soggy climates all tend to break down insulation and cause corrosion. The most important current use of PiB is in protecting the ignition systems of American amphibious war machinery.

PiB is winning increasing popularity among operators of buses, trucks and passenger cars. It is used to waterproof ignition systems, to prevent corrosion and current losses in batteries, to re-insulate cracked and dried-out wiring. In the marine and farm fields, PiB is seen to have a particularly bright future. From yacht to modest outboard, marine equipment of every type will benefit from the protection PiB affords against starting failures and the ravages of salt air. Farm equipment that must stand up under hard usage and

(*Continued on next page*)

New British Insecticide Exhibits High Potency

Efforts of a British concern to find an easily synthesizable replacement for scarce and costly derris have resulted in the development of a new insecticide which they report to be five times as potent as D D T.

The new substance is benzene hexachloride, briefly identified as "666" because of its formula $C_6H_6Cl_6$. Tests revealed that the gamma-isomer, present in the crude material in concentrations of from 10 to 12 per cent, was more toxic to weevils than any substance that this concern had ever tested. On the other hand, the alpha- and beta-isomers are virtually non-toxic.

If laboratory results are duplicated in commercial applications, new insecticide formulas will undergo drastic revisions.

Just brush or spray PiB Liquid Insulation on the plugs, wiring, distributor, coil terminals and battery of a water-stalled engine. Step on the starter and you're ready to roll! You can literally "hose down" an engine that has been properly treated with PiB and it won't even miss.

ADVERTISEMENT—*This entire page is a paid advertisement.*

May ★ **U.S.I. CHEMICAL NEWS** ★ 1945

Patent Granted on All-Purpose Insectifuge

As previously described in Chemical News, a government-developed all-purpose insect repellent is doing a remarkable war job in protecting our fighting forces against the variety of insects they encounter on different parts of the globe. One of the vital ingredients of this repellent is U.S.I.'s Indalone.

Recently, a patent has been assigned to the United States, as represented by the Secretary of Agriculture, covering the composition of the product. The patent describes it as a ternary solution comprising by volume from 33⅓ per cent to 80 per cent of dimethyl phthalate, and complementary equal parts of 2-ethyl-1, 3 hexanediol and n-butyl mesityl oxide oxalate. (Indalone).

Bitter Soya Taste Yields to Alcohol

The bitter, beany flavor of present-day soya flour has seriously limited the use of this mineral- and protein-rich flour in bakery products. A new alcohol process for extracting the soya-bean oil, however, gives promise of overcoming this handicap. According to a recent report, the new process leaves a sweet-eating bean for grinding into a flour which can be used in greater proportions for enriching bakery products.

Urethan May Play New Bactericidal Role

Experiments with urethan and other carbamates, such as butyl and prophyl, indicate that these compounds, when combined with sulfonamides, have unexploited possibilities as bactericidals and bacteriostatics, according to a recent report.

Indications are that, in addition, urea and urethane both antagonize slightly the sulfonamide inhibitors and that they increase the solubility and bacteriostatic activity of the sulfonamides. Both are effective mainly against Gram positive bacteria and to a lesser degree against Gram negative bacteria.

Tests indicate that urethan is superior to urea in all respects.

New Liquid Insulation

(Continued from preceding page)

exposure to weather also will give longer, more reliable service.

Industrial Uses

In industry, PiB appears to have limitless possibilities. Motors which operate in damp atmospheres can be protected simply by spraying with PiB. Open switchboards, control panels, automatic signaling systems and similar electric equipment can likewise be protected with PiB. The emergency uses of PiB—in treating drowned-out motors, leaking panel boards and other moisture-affected electrical equipment—should make it a "tool" every maintenance man will want to have in his kit.

Above, you see PiB being applied to a battery. Photo below shows test to determine current leakage. New battery shows no leakage. Used battery, prior to treatment with PiB, showed sufficient leakage to cause electrolysis and consequent corrosion of battery holders, cables and terminals. Same battery *after* PiB treatment showed no measurable leakage. It is estimated that periodic treatment with PiB can add 10 per cent to the life of a battery. However, PiB's biggest contribution to battery life is made indirectly — by assuring quick starting of motors even after long idleness in damp weather.

TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

A new plastic material, which is claimed to transmit as much visible light as window glass, yet block all harmful ultra-violet radiation, is now on the market. **(No. 931)**

USI

A transparent new fabric is described as being as sheer as voile, but with exceptional strength and wind and water resistance. It is available for development work. Suggested uses include rain-proof garments, shower curtains, etc. **(No. 932)**

USI

Grease-proof cellophane packaging is offered in the form of a new cellophane-cloth-wax laminate, which is specially recommended for wrapping of grease-coated metal parts. **(No. 933)**

USI

A cleaner for plastic glass, such as plexiglass, is offered for sale in bulk at a new low price. It is applied by a new sprayer which is said to speed cleaning and improve results. **(No. 934)**

USI

A new chlorinated paraffin, resinous in nature, is claimed to be both flame and moisture resistant, and to be non-toxic. **(No. 935)**

USI

Corrosion proofing of metal surfaces is said to be facilitated by a new wax concentrate sold in solution with petroleum solvents. The liquid, which may be applied by brush, dipping or spray, dries in an hour, remains flexible at minus 20 F., and will stand heat up to 214 F. **(No. 936)**

USI

A new synthetic-rubber latex, reported to be a modified type of butadiene-styrene, is announced. Suggested postwar uses include impregnation of paper and fabrics used in shoes and binding of fibres and hair for upholstery. **(No. 937)**

USI

An abrasion-resistant plastic, said to be 250 times as resistant to abrasion as boiler plate, is offered. It is claimed to be useful for such tough jobs as protecting sand-blast equipment. **(No. 938)**

USI

An alternate for Carnauba wax, which is said to take its place in paste floor polishes, automobile polishes, carbon paper and water-wax emulsions, is on the market. **(No. 939)**

USI

Heat-indicating bands, used as bottle seals, are designed to give warning when the bottle has been subjected to a temperature harmful to the contents. Under these conditions, the color of the band changes permanently from green to bright orange. **(No. 940)**

USI

A new enamel-like paint, for use on concrete, brick or wood exposed to water or moisture, is offered. Maker states that new paint affords better coverage than its predecessor and is resistant to yellowing and the action of corrosive fumes. **(No. 941)**

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PRODUCTS AND PROCESSES

Molded Cleaning Agents

Mixtures of soap or of synthetic washing agents are molded with water-insoluble condensation products and a large proportion (28-45 per cent) of an inert filler such as kaolin. I. G. Farbenind. A.-G. Belgian Patent No. 446,970.

Bleach and Cleanser

Soap powders containing bleaching agents are rendered stable on storage and less liable to lose oxygen too rapidly in a hot aqueous cleansing bath, by adding to their ingredients a small proportion of the oxide of an ortho-hydroxy aromatic aldehyde. This may carry substituents such as alkyl or alkoxy groups. W. Baird and Imperial Chem. Industries Ltd. British Patent No. 555,998.

Soap Filler

The filler consists of hemicellulose, extracted from cellulose on treatment of the latter with alkali, and precipitated out of the waste alkaline liquors. Phrix. Arbeitsgemeinschaft. Belgian Patent No. 446,801.

New Soap Substitutes

A new group of surface-active products is obtained by causing an alpha-bromo aliphatic carboxylic acid ester with 12-18 carbon atoms to react with a trimethyl amine. The reaction is carried out in a polar liquid such as methanol, ethyl alcohol, or water, at a temperature not over 35°. Sufficient time must be allowed for the reaction to run its full course. It is preferable to have an excess of the trialkyl amine in the reaction mixture. The products are valuable as soap substitutes and are good detergents and foam promoters. J. M. Tinker and A. L. Linch, to E. I. du Pont de Nemours & Co. U. S. Patent No. 2,359,884.

Improved Detergents

Improved detergents are prepared from glyceryl monoglycerides of coconut-oil fatty acids, and the sodium salts of the mixed sulfates of fatty alcohols derived from coconut oil. The products are spray dried. R. B. Colgate, E. E. Dreger and K. L. Russell, to Colgate-Palmolive-Peet Co. Canadian Patent No. 426,102.

Bottle-washing Detergent

A nonfoaming and nongelling detergent solution is composed of 0.25-10 per cent of caustic soda, 0.05-1 per cent of a water-soluble sodium octyl-phosphoric acid ester, and water. This solution is particularly suitable for the automatic washing of bottles, pans, etc. H. H. Hull and I. Shere, to The Diversey Corp. U. S. Patent No. 2,360,135.

Emulsifying Agents

Emulsifying agents are prepared as polyglycol ethers by reaction of 1 gram-molecule of a higher aliphatic alcohol (C_{10}—C_{18} with less than 4 gram-molecules of alkalene oxide. The fraction of polyglycol ether containing 5-8 ethylene groups in the molecule is separated from the reaction mixture by fractional distillation. This is the only portion effective as an emulsifying agent. The remaining low-molecular weight fractions is recovered for a fresh reaction with alkylene oxide. Th. Goldschmidt A.-G. Belgian Patent No. 447,658.

Washing Method

Anionic soaps and aliphatic alcohol sulfates are used in the presence of adsorbent hydrophilic substances such as magnesium silicate. Zellwolle- und Kunstseide-Ring G.m.b.H. Belgian Patent No. 447,464.

Powdered Detergent

A detergent is produced by saponification of aliphatic sulfonyl chloride of chain length C_8 to C_{12}. The unsaponifiable matter is separated from the very dilute solution in which it floats and the soap is then salted out with caustic alkali. The alkali present in the separated soap can be partly or completely neutralized by milling with acids. The product is finally reduced to flakes, powder, etc. A. Welter. Belgian Patent No. 447,710.

Fur Cleaner

Fur is cleaned with a solution consisting of one part of carbon tetrachloride and three parts of water. C. Marcus. British Patent No. 555,965.

Odorless Soaps

To prepare odorless soaps from synthetic fatty acids, small quantities of an aldehyde or of a compound yielding an aldehyde on dissociation, are added to the soaps. Henkel & Cie. G.m.b.H. Belgian Patent No. 447,475.

Liquid Dentifrice

A liquid dentifrice comprises an aqueous solution of salts of monoglyceride monosulfates, glycerine, and a water-soluble bodying agent. R. F. Heald and G. M. Salzmann, to Colgate-Palmolive-Peet Co. Canadian Patent No. 426,103.

Sulfated Detergent

A detergent is produced by the reaction of fatty oil, anhydrous glycerine and fuming sulfuric acid. The product is neutralized and shaped in the form of a bar or cake. F. W. Muncie, to Colgate-Palmolive-Peet Co. Canadian Patent No. 425,822.

Cleaning Dairy Equipment

A material for removing milk stone from dairy equipment consists of orthophosphoric acid or substances capable of releasing this acid in water, to give an aqueous solution having a pH of 1-3. C. Johnson. Canadian Patent No. 426,171.

Synthetic Detergent

A shaving cream contains as an essential ingredient a neutralized reaction product formed from a fatty oil, anhydrous glycerine and fuming sulfuric acid. A similar detergent ingredient is prepared from a coal-tar fraction boiling at 200-450° C. and liquid sulfur dioxide plus a sulfonating agent. The product is neutralized. Colgate-Palmolive-Peet Co. Canadian Patents Nos. 426,100 and 426,101.

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NEW PATENTS

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Complete copies of any patents or trade-mark registration reported below may be obtained by sending 25c for each copy desired to Lancaster, Allwine & Rommel. Any inquiries relating to Patent or Trade-Mark Law will also be freely answered by these attorneys.

No. 2,370,881, Method of Pest Control, patented March 6, 1945 by Theodore G. Roehner, Malverne, N. Y., assignor to Socony-Vacuum Oil Co., New York. That method of controlling insects having a water-dwelling life phase comprising applying to and within the water bodies wherein they may develop a hydrocarbon oil of highly cyclic nature having a specific gravity of at least 1.0 based on water and a viscosity gravity constant of at least 0.870.

No. 2,371,175, Method of Producing a Floating Soap, patented March 13, 1945 by Charles W. Kelley, Duck Hill, Miss. The herein described method of converting a perfumed hard cake of milled soap containing an acid into a hard cake of buoyant milled soap without appreciably changing the formula of the soap which includes the step of reducing the soap to a fluid mass by boiling, adding thereto sodium bicarbonate, stirring the mixture to distribute the sodium bicarbonate throughout the mass, the distribution and amount of sodium bicarbonate being such that its reaction with the acid will liberate minute portions of carbon dioxide scattered throughout the mass to produce minute cells in sufficient quantity to render the cake buoyant, and finally cooling and shaping the mass with the cells therein.

No. 2,371,623, Method of Preserving Soap and Resulting Product, patented March 20, 1945 by Lloyd F. Henderson, Reading, Mass., assignor to Lever Brothers Co. A detergent selected from the group consisting of soap and higher fatty non-soap detergents having a normal tendency to become rancid and being rendered resistant to the development of rancidity by having incorporated therein a small amount of a non-detergent compound selected from the group consisting of aliphatic and aromatic compounds containing at least trivalent nitrogen and at least two carboxyl groups connected to at least one of the nitrogens through a short aliphatic chain having not more than four carbon atoms, and their salts, esters and anhydrides.

No. 2,372,183, Purification of Pyrethrum Extract, patented March 27, 1945 by William F. Barthel, College Park, Md., and Herbert L. J. Haller, Washington, D. C., assignors to the United States of America as represented by Claude R. Wickard, Secretary of Agriculture, and his successors in office. A process of separating pyrethrins from a solution of relatively impure pyrethrum extract in a petroleum hydrocarbon solvent, comprising mixing the solution with an aliphatic nitro compound having the formula RNO_2, where R represents an alkyl group, separating the aliphatic nitro compound solution from the petroleum hydrocarbon solution, and contacting the aliphatic nitro compound solution with activated carbon.

Measurement of Wettability

A new method for measurement of wettability of a solid by a liquid employs the du Nouy interfacial tensiometer, present in most laboratories which study surface activity. In this method the usual platinum ring is replaced by a sample in the form of a circular disk affixed to a metal disk. This is adjusted to a position parallel to the surface of the water and then pressed with gradually increasing force down into the surface of the water. As the disk is pushed down, the angle which the edge of the water makes with the upper surface of the sample gradually increases.

The maximum value which this angle can attain is the advancing contact angle. The contact angle is a function of the force or the maximum reading on the tensiometer at the moment when the liquid surface breaks and the sample submerges.

Values obtained for reproducible contact angles indicate that the method gives results which agree within a few degrees with those obtained by other methods. Measurements may be made in a few seconds. Best results are to be expected when the sample surface is hard and smooth, but other surfaces such as fabric may be evaluated if certain precautions are followed. A curve shows the relation between contact angle and interfacial tensiometer readings. H. Wakeham and E. L. Skan. *J. Am. Chem. Soc.* 67, 268-72 (1945).

Paper Bags for Packaging

Soap powder and other powdered detergents are satisfactorily packed in specially developed heavy-duty multiwalled paper bags. The bags are constructed with 2 to 6 walls of kraft paper, depending on the weight, density and physical characteristics of the product. Special bags were designed by the St. Regis Paper Co. for the U. S. Army for the packaging of washing compounds to meet requirements of outdoor storage. Bags of this general type have several advantages over drums, fabric bags, etc. They are self-closing, require relatively little storage space, are emptied with very little residue retained, are light in weght and economical to ship, and are low in initial cost.

Detergent and Activator

A new product called "Tergitol Penetrant No. 4" is sold by the Carbide & Carbon Chemicals Corp. of New York City, in the form of a 50 per cent aqueous paste. The 50 per cent of active ingredient consists of sodium tetradecyl sulfate. Practically no inorganic salts or mutual solvents are present. The product has marked detergent properties and is said to increase the activity of bactericides and antiseptics.

Oil Decolorization

The pH is important during the purification of oils by adsorption of color by active carbon. Studies of pH during the decolorization of a number of oils showed that decolorization was greater in the neutral or slightly acid zone. J. W. Hassler. *Oil & Soap* 22, 60-2 (1945).

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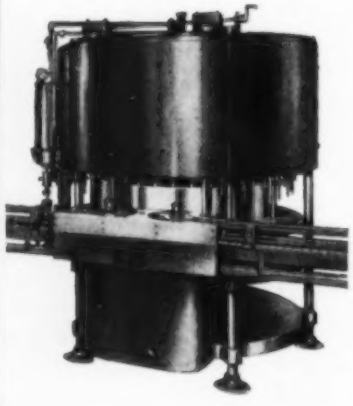

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Die Lubricant

A patent specification on file at the British Patent Office by Colgate-Palmolive-Peet relates to die-pressing of bars and cakes of soap and synthetic detergents. The object is to supplant liquid lubricants used on the die by an inert powdered material. This powdered material is introduced between the blank and the face of the die before the latter is applied to the blank. The material so used should have a hardness below 6.0 on Moh's scale and should be finer than 60 mesh but not more than 200 mesh. The amount used is about 10 milligrams per square inch on the die face. It is blown against the face of the die or of the blank before the die is applied.

Suitable materials for the purpose include inorganic phosphates or sulfates, magnesia, talc, alumina, mica. calcite. anhydrous soap, wood or cork dust, starch, cellulose fines and plastic dusts. The invention can be used for pressing blanks and bars of toilet and laundry soaps, or of synthetic detergents, or soap containing substantial proportions of synthetic detergents. *Perfumery & Essential Oil Record* 36, 16 (1945).

◆

Modified Indicator

An indicator for the direct titration of sodium carbonate is made from 20 parts of methyl yellow to one part of methylene blue. This gives a sensitive transformation point at the equivalence point of the titration of sodium carbonate with 0.2 Normal or 0.5 Normal hydrochloric acid at 20° C. In alkaline solution the modified indicator yields a yellow-green hue. As the end point is approached this changes to a straw color, then to a sunburned straw, and finally to a pink straw at the end point. A concentration of 0.8 gram of methyl yellow and 0.04 gram of methylene blue per liter of alcohol is found to be suitable. About 0.1 ml. of this mixture is used per 100 ml. of solution. The end point is taken as the point at which the first trace of pink is observed in the solution. W. R. Carmody. *Ind. Eng. Chem.*, Anal. Ed. 17, 141-2 (1945).

ROSIN SHORTAGE

(*From Page* 33)

production of yellow bar laundry soaps for civilian needs. Altogether, the picture is not a happy one, and the gloom is increased with reports issued toward the end of April that all activity in gum rosin trading had come to a halt in Savannah.

The week before trading was reported stopped at Savannah, it was indicated that not one drum of gum rosin had passed over the official Savannah market that week. From this situation arose the belief that unless the OPA acted to raise the price of rosin by at least one cent a pound the stalemate would continue. Under the circumstances the War Food Administration could issue a certificate of necessity for rosin. If that were to occur, the WFA could request the OPA to adjust ceiling prices in an effort to improve producing conditions.

One thing seems fairly certain: with a 200,000 barrel deficit facing the country, lend-lease requirements

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will have to be cut in order not to jeopardize the war and civilian economies in the United States. Some sources speak of a ten per cent cut in lend-lease commitments below last year's shipments. In 1943 an estimated 78,060,000 pounds of rosin were exported from the U. S. via lend-lease. In order to meet requirements for the coming year a crop of 1,500,000 barrels will have to be turned out. It now looks as though our maximum efforts will only yield about 1,300,000 drums of rosin.

Rosin Consumption in Soap for the Crop Years 1939-1945

	Pounds
1939	97,765,720
1940	79,566,760
1941	104,568,880
1942	99,281,520
1943	170,070,160
1944 (estimated)	169,185,800

Rosin Production for Crop Years 1939-1945 (500 lb. drums)

1939	
Gum	1,832,930
Wood	779,461
Total	2,612,391
1940	
Gum	1,317,795
Wood	976,176
Total	2,293,971
1941	
Gum	1,173,639
Wood	973,226
Total	2,146,865
1942	
Gum	989,638
Wood	1,145,955
Total	2,135,593
1943	
Gum	1,085,873
Wood	983,881
Total	2,069,754
1944	
Gum	979,456
Wood	849,083
Total	1,828,539
1945 (For first three quarters only)	
Gum	733,890
Wood	522,872
Total in 520 lb. drums	1,256,762

Zephirol

Experiments on bacteria showed that flake "Zephirol" was as effective as its commercial fluid preparation. At 0° C. "Zephirol" is superior to cresol soap. "Zephirol" has greater activity against gram-positive than gram-negative bacteria, which makes it particularly effective in retarding the growth of staphylococci, where it is found to be 30 times more powerful than cresol soap. For hand disinfection, "Zephirol" has the advantage of being able to remain on the skin in effective concentrations. Because of its sensitivity to fatty-acid alkalies it is necessary to remove the last traces of soap before its application. Washing with "Zephirol" solution saves sterilization of rubber gloves. E. Gottsacker. *Med. und Chem.* 4, 553-72; through Chem. Abs.

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COCONUT OIL

(*From Page 31*)

The Filipino is not interested, under present conditions, in producing copra or other commodities unless he has something on which to expend the money which he receives for the articles which he has to sell. The money in itself is useless to him unless he has something to expend it for. Therefore, the procurement of copra from the Philippines must go hand-in-hand with the problem of supplying the Filipinos with incentive goods.

All shipping space to the Philippines is allocated under Theater Commander priorities. The amount of shipping space available for the shipment of incentive goods to the Philippines depends entirely on military requirements for such space. To date the amount of shipping space available for the shipment of incentive goods for the Filipinos has been extremely limited. The relief supplies which the Army is shipping, insofar as they are given away to the Filipinos, are hardly to be classified as incentive goods, as the Filipinos do not have to work to get them.

Insofar as shipping space for the movement of copra from the Philippines is concerned, there is no problem involved. Actually, if the movement of copra were required for no other purpose, such as the rehabilitation of the Philippine economy, it is required by the returning ships for ballast. It is extremely difficult for dry cargo ships to find proper ballast, i.e., the type of ballast which can be loaded and unloaded without difficulty, and the ship captains and those responsible for loading the ships out of the Philippines are actually anxious to get the copra movement started for that reason. But it is not a question solely of the availability of shipping space. Before copra can come out of the Philippines, incentive goods must go in.

Whatever is done in the Philippines in the way of copra procurement will require the closest cooperation between the military and the Foreign Economic Administration. At the outset, facilities for inter-island transportation and trucks for over-land transportation must come from the military and fuel to operate them must come from the military. Even the repairs must be made by the military.

It has been the effort of the writer in setting forth the need for coconut oil in the United States both for essential purposes and as a replenishment of the over-all supply of oils and fats, to emphasize in the minds of Army officials the need for this close cooperation in the securing of copra from the Philippines. This was the purpose of the seminar address of the writer, delivered under date of March 15 before the Army Industrial College, which seminar address is extensively quoted from in the forepart of this article.

Copra should begin to move from the Philippines in the not too distant future. The movement of no great quantity can be expected at the outset, but this quantity should gradually increase as transportation facilities and economic conditions in the Islands improve. Ultimately, when some reasonable approach to normal conditions is approximated, private business concerns will take over the business of copra procurement from the Philippines. In the meantime, the Foreign Economic Administration, through its U. S. Commercial Corporation or a privately organized corporation, composed of companies formerly engaged in the exportation of copra and coconut oil from the Philippines and financed by Government funds, will be obliged to work on the problem of copra procurement from the Islands.

TOILET SOAP IRRITATION

(*From Page 28*)

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"Quadrafos" Now in Bead Form

"Quadrafos," (sodium tetraphosphate—$Na_6P_4O_{13}$) used in the textile, laundry and food industries as a detergent, water conditioner, dispersing agent and dye assistant, is now available in bead form, it was announced recently by Rumford Chemical Works, Rumford, R. I. The company is distributing a bulletin on the uses and properties of "Quadrafos" beads.

David Gordon Joins Snell

David Gordon, recently chief engineer for Interchemical Corp., New York, manufacturers of printing inks and surface coatings, has joined the staff of Foster D. Snell, Inc., Brooklyn, chemical consultants, as director of engineering.

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A new formula, the result of long laboratory experimentation, Deodor-Scent L44 removes even the most persistent odors positively and permanently. Yet L44 leaves no heavy odor of its own—just an extremely light, pleasing fragrance that soon disappears.

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**It's not a Deodor-Scent if it's not labeled MM&R*

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INSIDE NEWS

MAY PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1945

Air War Blasts Way To Better Tin Containers

Meeting the needs of our fighting forces in blasting Berlin, Tokyo and Osaka is also helping in the development of tin containers. As a result, types of containers are being made today to stand up under the hardest blows expected in wartime handling.

Cans which formerly protected civilian goods now protect military matériel. Cans that contained food, beverages and paints now play their important roles as efficient containers for explosives.

Naturally, these wartime containers are built for the tough combat experiences of shock, rough handling, extreme air pressures, and corrosion from chemical elements. National Can Corporation is proud of its contribution in providing these tin containers for our fighting men . . . supplying them with perfectly protected ammunition and equipment. Typical of the many different types of containers made are those mentioned here.

Parachute Bomb Containers

A special protective container, which opens by means of a slip cover, was designed to enclose a parachute attached to a fragmentation bomb. Methods have been developed to maintain production and packaging at high speeds to meet service needs.

Bomb-Part Packages

Acting as a fin, the tail on an incendiary bomb controls its downward flight. The bomb, to which the tail is attached, contains an igniting agent which destroys by fire — the temperature of the bomb on contact being so high it burns right through most of the buildings hit.

The large quantities demanded by the Army required a constant high rate of production with a minimum of changes. An automatic tandem line was set up, and from the blanking operation to the clinching of the ends, a complete assembly was obtained with the least amount of handling. By this method, finished incendiary bomb tail pieces are complete for packaging within a short period of time, reducing material and handling costs as well as assembly storage.

Detonator Cans

A particular detonator is complete with salt blocks and blasting cap. The slip cover container must be — and is — air and water tight in order that the cap on the shell will not be affected by humidity and the charge can be set off when needed in combat.

Smoke Pot Containers

Smoke screens for invasions and infantry attacks are produced from a smoke pot containing chemical charges. Careful and detailed study as to ease of handling and carrying was an important consideration in designing this particular type of container. A "U" handle fastened to the plug is bound to the container by means of a metal band which permits the container to be lifted and carried by the handle without displacing the plug. To use, the band is broken and plug pulled out. Contained in the plug is a chemical agent which when ignited melts through a zinc cup located in the plug and reacts with the main composition in the can proper to emit a dense smoke for screening purposes. In case of a wind shift, the plug can readily be replaced to smother the smoke.

These and many other diversified experiences in combat have intensified National Can's research and laboratory work. As a result of developing containers to meet these different and difficult needs for protecting food and fighting equipment, National Can Corporation looks forward to a busy postwar period. It will have new and improved containers to keep good things good longer for its present and future customers. 955

Iron-Deficient Diets

Iron deficiency in the diet has caused many nutritionalists to study this problem. Animals as well as children are stricken with anemia due to lack of iron in foods grown in certain areas. This may become especially serious when only home-grown products are eaten. Just growing vegetables and fruits in soils relatively high in iron does not completely solve the problem. Agricultural workers now find that environmental conditions play an important role. In experiments with turnip greens, nitrogen fertilizer applications were found to have significantly lowered the iron, calcium, and phosphorous content of the eatable greens. However, these negative effects were associated with increased yields due to nitrogen. 956

Make Rations Good to Eat

Diet of troops in forward areas in the tropics may be deficient in thiamine, riboflavin, ascorbic acid and calcium because of a number of conditioning factors largely due to environment and the stress of service. These include various anxiety states, which affect troops in any action. In the tropical theatres there are added the effects of heat and humidity in reducing appetite, coupled with a certain lack of palatability in the food available. There is also an increase in the requirement for the protective vitamins due to unusually high carbohydrate content of the diet. Fortification with the deficient elements is suggested. The need for continued research on ways of preserving palatability is underscored in a recent report. 957

Recommended Specifications For Industrial Cleanser

It is claimed that an industrial cleanser for general use should consist of a superfatted neutral toilet soap, containing a wetting agent or synthetic detergent, and a soft scrubber which will soften or dissolve in water and will not clog plumbing. It should contain a minimum of free alkali and have a pH of 10 or less in a one per cent solution. It should contain no silica, quartz, pumice or feldspar, nor any rosin fillers or organic solvents. A typical formula meeting these specifications is as follows:

Neutral toilet soap	30 parts
Colloidal clay	30 parts
Synthetic detergent	10 parts
Lanolin	5 parts
Perfume	1 part

958

Old Lacs Reclaimed

A new process has been developed abroad for reconditioning or reclaiming old and perished lacs. It is even effective for treating materials which have become useless through storage under adverse conditions or which have been damaged through enemy action. Any shellac bleacher can carry out the process using his present equipment. The chemicals used are among the cheapest. 959

Hermetically Canned Bullets

Machine gun cartridges are now "canned" in hermetically sealed metal containers to meet adverse climatic and transportation conditions overseas. The containers are opened with a key similar to that used on coffee or sardine cans. 960

The Consumers Approve

The small cans of processed cheese with bacon added are proving popular in Army rations "as rations go," and a civilian demand is expected when bacon becomes available. The addition of bacon gives the product flavor. 961

Bacteria Thrive

Asparagus juice concentrate, which can be produced from cannery and packing house waste at a competitive price, has possibilities as a culture medium for industrial producers of useful micro-organisms. 962

Roach-Repelling Floors

A specially compounded magnesium oxychloride cement containing particles of finely divided copper powder has been found to exhibit rather unique roach-repellent properties. While the cement is definitely not toxic to roaches, these pests show a distinct tendency to avoid premises where the special cement is used as a flooring material. It is suggested for use in rooms and buildings where food is stored, sold or prepared. This cement also inhibits growth of molds and bacteria. 963

NATIONAL CAN

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Vitamin C Concentration In Grapefruit Juice

For the past four years, grapefruit has been tested for its highest vitamin C content at different stages of ripening. It was found that juice from immature fruit has the highest concentration of C, and that as the fruit ripens and becomes more juicy, the concentration of C gradually becomes weaker. However, the total value of vitamin C in mature grapefruit is greater than the total in immature fruit. This is true because, as the grapefruit becomes larger and contains more juice, its total C content also increases. 964

Sweet Potato Processing

During the processing of sweet potatoes, the peel is often removed in a hot lye bath. As the root is exposed to the air again, a discoloration develops which seriously affects the quality of the canned product. The results of a study to prevent this undesirable factor are now available. The investigators found a highly specific oxidase enzyme which caused the discoloration, but which could be inactivated if the sweet potato tissue was quickly brought to 90° C. Preheating the roots before peeling in a 50° C. water bath for 30 minutes prevented, or greatly lessened, subsequent discoloration. 965

DDT Insecticides Used Abroad

Although no insecticides containing DDT, the newly discovered insecticidal agent, are as yet available commercially on the American market, several trade named preparations containing DDT are reported in commercial use in Switzerland, England and Brazil. In the United States all DDT, except small quantities for experimental work, is going to the armed forces. 966

Small Oranges Better

Confirming earlier studies of orange quality, a recent report states that on a quality basis, the juice from small oranges average better in flavor and contain a higher vitamin C value than the larger fruit. The smaller oranges are also richer, sweeter and have more solids. 967

Spice It for Better Flavor

Coffee and cinnamon in the icing, peach jam with a dash of mace for filling, orange frosting made interesting with ginger, ground cloves in vanilla icing, and cinnamon in chocolate cake are among the mouth-watering suggestions offered to housewives and commercial bakers by a group of home economists interested in spice promotion. The suggestions are in line with the present trend away from emphasis on nutritional selling to a wider recognition of flavor as a factor in food selection. 968

Technical Topics

DDT IN PAINT — Two British paint chemists suggest that DDT, the potent insecticide, mixed with interior paints and wall finishes, will rid houses of flies and other pests. Tests have proved the practical value of the experiment. 969

OILS FROM APRICOT KERNELS— Apricot kernels are used for the production of fixed oil, volatile oil and a paste for use in confectionery. More soluble in water than almost any other essential oil, they are used in medicine for the preparation of emulsions, in soap-making and for cosmetics, as a salad oil, flavoring essence in cooking, and in the manufacture of some perfumes. 970

CANNED HAMBURGERS — The announcement by the Quartermaster Corps of the addition of hamburgers to the list of canned rations serves to emphasize the solid background of research in meat processing. 971

SWISS STEAK IN CANS — A recent patent has been issued for canning Swiss steak! 972

BODY LOUSE TOXICANT — It is reported that sesame oil and ethylene glycol ether of pinene increase the toxicity of pyrethrum as much as 100 times against the body louse. 973

HONEY — Properly aged honey develops a rich blended flavor, losing some unpleasant odors and flavors from certain wild flowers when eaten soon after production. 974

COLCHICINE — Colchicine, a drug that changes the heredity characteristics of plants by increasing the number of chromosomes per cell, can be applied effectively to wide areas by the acrosol method. 975

SEALS CONTAINER SEAMS — The reaction products of glycerine with sebacic, adipic, or suberic acid yield soft, somewhat tacky alkyd resins which can readily be used to replace rubber dispersions in compositions for sealing seams of metal containers. This is described in a recent patent. 976

DRYING OIL — A new method for producing drying oil from raw castor oil, without introducing dark color or other undesirable properties, has been developed in Great Britain. The process is a catalytic one, using either oxides of cobalt, iron, manganese, calcium and zinc or acetates of iron and manganese. The presence of an acid is not necessary. 977

ALLYL STARCH COATINGS — Coatings made from allyl starch have been shown to be hard, transparent, and highly resistant to weather, solvents, and heat. They withstand temperatures of 400° F. The freshly prepared compound is readily soluble in most paint and varnish solvents and the coating dries either by ordinary contact with the air or, preferably, by the application of heat. 978

BURNS EASILY TREATED—It has been found that burns can be treated with plastic films. These fluids are water soluble and easy to apply, and when tested on rabbits, were found to be superior to tannic acid and to weak and strong triple dye in healing power and aschar formation. 979

SURGICAL INSTRUMENT STERILIZER—Cetyltrimethylammonium bromide is said to be an excellent disinfecting and cleansing agent. It has been recommended for sterilizing dirty bowls and surgical instruments. A one per cent aqueous solution is used. It is not so suitable for hand cleansing because a small number of skin reactions have been encountered. 980

FOR HYPERACIDITY — A basic aluminum salt of aminoacetic acid (glycocoll) in white impalpable powder form mixes with water to form a suspension which does not readily separate. Experiments point to use in hyperacidity and peptic ulcer. 981

PERFUME OIL — Of interest to perfumers is an exact reproduction of the precious Bulgarian natural oil, Kazanlik Rose, now unobtainable. The new product has been tested in laboratory and commercial use, and is now available.

SKINLESS SAUSAGES CANNED — A patent was recently issued for a mechanism for filling skinless sausages directly into canning containers. 983

CANNING CHICKEN NOODLE SOUP— A patent was recently issued to a well-known food processor for a method of canning chicken noodle soup. The system covers the entire process from making the noodle dough to the sterilization of the sealed can. 984

NEW MOTOR FUEL — Paraldehyde, blended with methanol and then mixed with ordinary gasoline at a 30 to 70 ratio, constitutes a new motor fuel now being sold in Switzerland. 985

Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquiries to the original source of the article. Write to National Can Corporation, 110 East 42nd Street, New York City. Please mention the number at end of article — also name of the magazine you saw it in.

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BASIC PYRETHRUM EXTRACT—will again be available after Victory with improved standards. For example, we will have available very highly concentrated pyrethrum extracts of high stability. These products will contain 20% Pyrethrins, and still higher concentrations when desired. Our new processes retain the advantages of our old Basic Pyrethrum Extract and give the products maximum stability and clarity.

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DDT CONCENTRATES For

HOUSEHOLD INSECTICIDES — DDT combined with POWCO BRAND Pyrethrum Extract with a new and effective synergist. Specifically formulated to produce a superior liquid household insecticide.

CATTLE SPRAYS — Quick knockdown and kill of houseflies in the barn. Repellent action in the field. Residual action for the control of houseflies. The ideal postwar Cattle Spray Base.

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INDUSTRIAL INSECTICIDES — Either liquid or powdered products adaptable to a wide range of formula requirements.

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APS No. 202—An outstanding solvent for DDT, making possible high concentrations for the manufacture of oil or water sprays.

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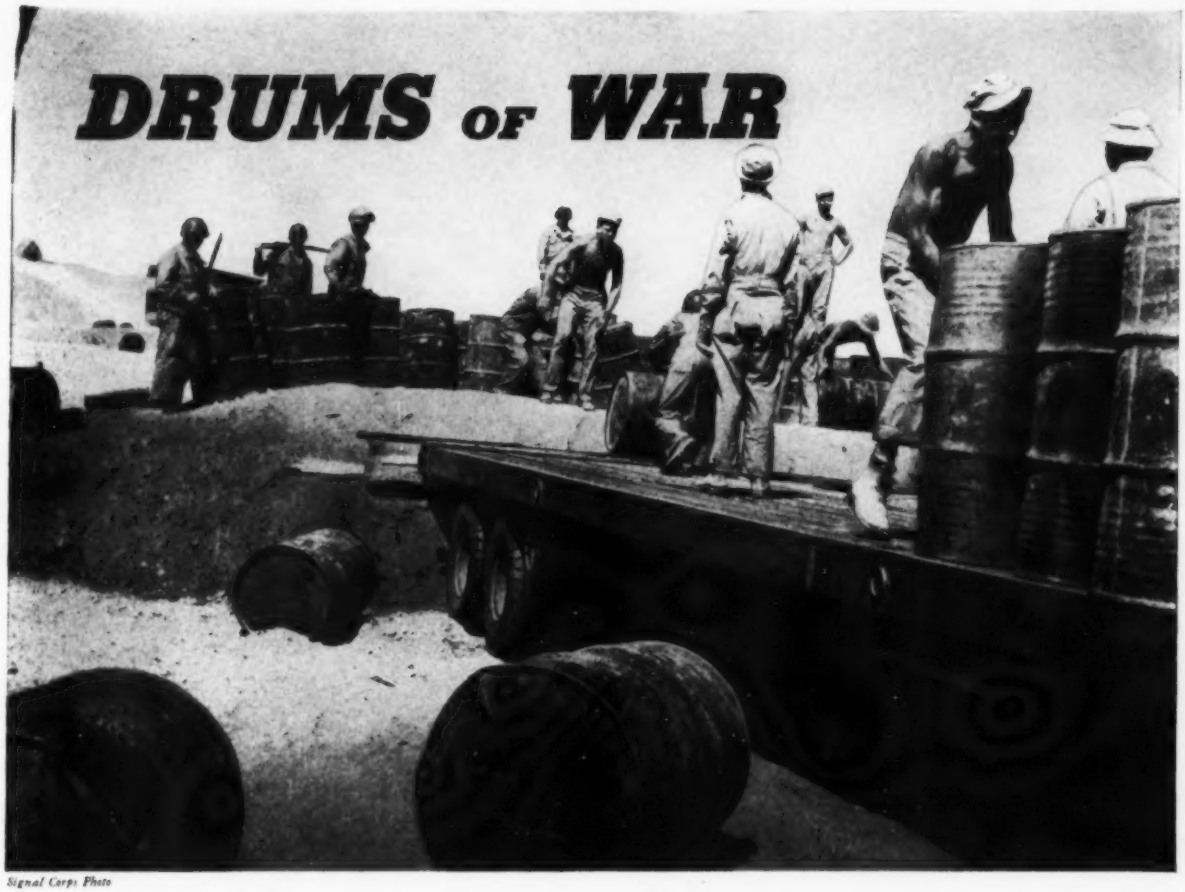

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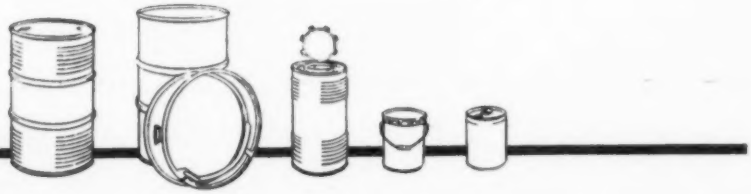

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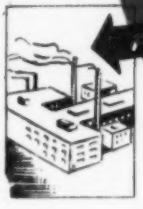

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During more than two and one-half years which have elapsed since pyrethrum was put under allocation, its availability to the household insecticide industry has steadily declined, and for a long time has approached zero.

Even under those discouraging conditions, interest in pyrethrum for future use instead of declining has expanded almost in inverse ratio to the supplies. Most of the post-war planning in our industry is rather inclined to visualize more extensive and, at the same time, more intelligent and scientific use than ever before.

This seems an appropriate point to reiterate the statement that pyrethrum will maintain a leading place in insecticides for household use for a long time to come. It can only be displaced, if it ever is, by some at present unknown substance which will combine its somewhat remarkable advantages of rapidity of action, breadth of effectiveness, and—most important of all—complete safety of use.

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HANDBOOK OF PEST CONTROL

The Behavior, Life History and Control
of Household Pests

By ARNOLD MALLIS

THIS new book is a thoroughly practical, complete and up-to-date study of pest control which will be invaluable to every insecticide manufacturer, pest control operator and entomologist. Approximately 570 pages in length, and containing 140 illustrations, it deals in a practical way with the behavior, life history and control of household pests.

While there have been other books in this field, Mr. Mallis' book is by far the most complete and up-to-the-minute practical text on the subject. It reflects insecticide developments as recent as those of the past few months, carrying for instance, the most recent findings on DDT, aerosol insecticides, insect repellents, etc. The emphasis throughout is on control measures, and the author covers fully all the commonly used insecticide materials and treatments. Fumigation is the subject of a special chapter.

An unusually complete list of references to the literature on household pests, insecticides and their use adds considerably to the value of Mr. Mallis' new book. Hundreds of references to the technical literature are listed.

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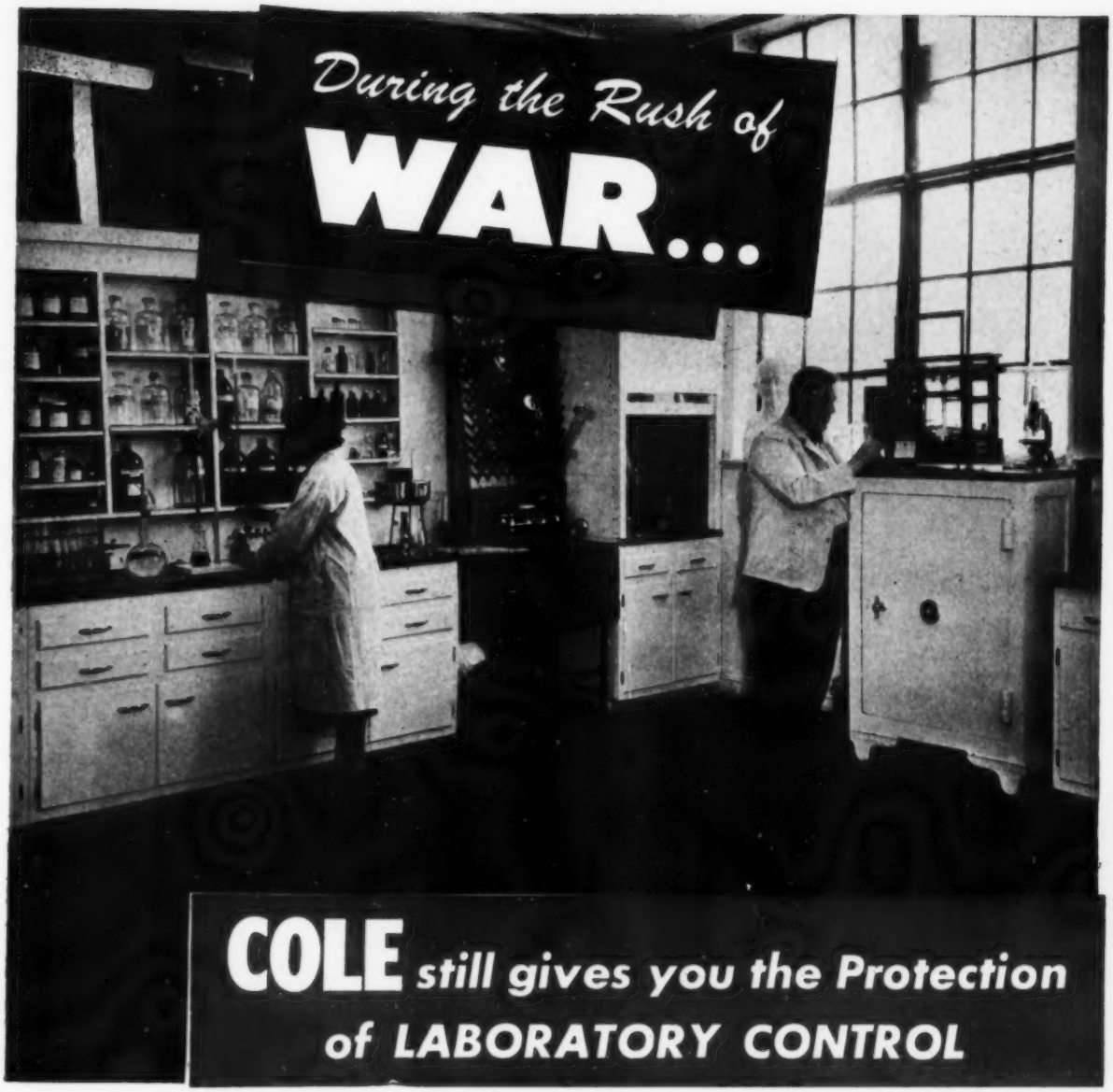

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Refined to meet the needs of modern household insecticide manufacturers

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★ This announcement is a reprint of a message in the April, 1944 issue of Soap which informed the industry of the possibilities of VELSICOL-DDT combinations. Today we repeat the message. It is an impressive indication that the VELSICOL Corporation pioneered in the work of promoting and extending the use of DDT by providing solvents and activators of unique merit for this compound.

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"Here's what I mean. Cans don't break or split. So they're safe and easy to pack, store, and handle. And cans are economical to ship because they're light in weight, compact.

"Cans shut out light...protect the toxic principles of pyrethrum and rotenone. They're fire-resistant... safe packages for polishes and waxes.

"When it comes to sales appeal, the smart labels and neat appearance of cans make eye-catching displays.

"That's why I say cans are so *trouble-free.* And that's why jobbers, retailers, and housewives will join me in a lusty cheer when steel-and-tin cans are available again for packing my products!"

IMPORTANT TO YOU!

5 BIG REASONS

Why Housewives Prefer

INSECTICIDES IN CANS

1. Cans don't break.
2. Cans don't split.
3. No air- or light-deterioration.
4. Cans are so convenient.
5. ...And so economical.

NATIONAL ADS TELL STORY OF CANS!

This month more than 35,000,000 printed messages are appearing in 8 national magazines and in Sunday supplements throughout the country. These big full-page ads in full color are telling consumers everywhere why no other container combines as many advantages as the steel-and-tin can!

CAN MANUFACTURERS' INSTITUTE, INC., NEW YORK

NO OTHER CONTAINER PROTECTS LIKE THE CAN

Penetration is Vital in Selling the Hospital Field

The circulation given your advertising message in the hospital market must have depth as well as breadth. So many factors enter into the purchase of the great variety of equipment, supplies and services bought by hospitals that it is essential to sell all of them.

HOSPITAL MANAGEMENT provides this "circulation in depth", since in 75% of the institutions where it is received copies are routed from one department head to another in a manner similar to that illustrated at the left. This is the routing of the two copies which go to Jamaica Hospital, Jamaica, New York, as described to us by superintendent Francis C. Leupold.

After being circulated to these important members of the hospital's staff, the two copies are filed for permanent keeping, one in the office of the superintendent and the other in the office of the directress of nurses.

Thus the technicians whose advice must be sought when purchases are contemplated, have been conditioned beforehand. They are familiar with the advantages you have to offer and since they are the ones who will use the equipment or services you sell, their opinions carry much weight. Hospitals are such complex institutions that the administrative head who is empowered to sign the order must seek the advice of his specialists.

Month after month articles of great value to individual department heads of hospitals assure their continuing interest in material which contributes to the overall benefit of the hospital and the patients it serves. This partially explains our 213% gain in advertising and 31% gain in circulation recorded in the last four years. Let us give you the complete details of our really remarkable story.

For Detailed Reference Data See THE MARKET DATA BOOK Business Publications Edition

Hospital Management

The Only Hospital Publication which is a member of both the ABC and ABP.

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If you've been coasting in a seller's market

★War-born shortages have conditioned the consuming public to an acceptance of almost anything available, no matter how it's presented. But if merchandising history can be trusted, the pendulum will swing to the opposite extreme—buyers will be critical when an abundance of everything is again on the market; quality, appearance and convenience will again be the governing factors in sales.

Why not plan now to improve your postwar sales position with Anchorglass packaging! In Anchorglass, the quality and color of your product will speak for itself. In Anchorglass, the eye- and buy-appeal of your product is far ahead of products that are "hidden" by other methods of packaging. In Anchorglass packages all the original flavor, taste or other qualities are preserved intact until the last bit is used.

There's a combination of light, strong Anchorglass container and matched Anchor Cap that will fit your product and production requirements perfectly. Let us show you now how to lead the field with the kind of packaging your postwar customers will want!

Hear how Anchor Hocking is educating millions of your customers and retailers every week to the advantages of modern glass packaging—"Meet Corliss Archer" every Thursday evening, entire Coast-to-Coast Network, CBS.

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PHENOL COEFFICIENTS
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Immediate Shipment

AMBER COLOR
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CONTAINS NATURAL PINE OIL, SOAP *and* CHLOR-PHENOLS
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"Another Indu-cide"

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BAIRD & McGUIRE, INC.

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SANITARY PRODUCTS

A SECTION OF SOAP

Official Publication National Association of Insecticide & Disinfectant Manufacturers

PROBABLY as an aftermath of the wide publicity received in the daily press by DDT over the past year or two, we note a growing number of new products which have come to market and also trade marks which have been filed of late based in some way on the three letters, DDT. Many of these, of course, are perfectly legitimate registrations of products to contain DDT which will be marketed after the war when the material is freely available for civilian uses. Some, however, appear to be trading on the letters, DDT, in such a way as to confuse buyers into a belief that the products now on the market contain DDT.

We feel that a warning should be in order because these new marketers are inviting trouble unto themselves from several sources. New labeling requirements for DDT insecticides were issued last month by the Department of Agriculture,—and these apply even to experimental products shipped interstate. A play on the name by products which contain no DDT may be one thing, but completely to ignore label regulations is a serious violation of the law.

THE first regular four-year college course in pest control operation is being planned at Purdue University under the direction of Prof. J. J. Davis, the course to include studies in entomology, toxicology, mechanics, business law, labor problems, structural engineering, etc. The National Pest Control Association is collaborating in planning the course. This is a forward step which deserves the commendation it is receiving. There could not be a better selection of man and place than Davis and Purdue. The potential benefits to both the country and the industry from this pioneering educational effort are great. Our wholehearted applause!

THE wide use of insecticides in fighting this war, not to mention again the publicity received by DDT and the aerosols, may in one sense pose a threat to the future of the American pest control industry if we may judge from reports of activities in behalf of discharged veterans. The wider insect consciousness which most men will have upon leaving the service may to a degree be responsible, according to a recent comment, for many planning to start up small exterminating businesses after the war. With a good bug killer and a pair of strong legs, they evidently are under the erroneous impression that the road to wealth via pest control lies directly ahead.

Although the pest control industry will undoubtedly employ its share or more of discharged veterans, government agencies should be certain to discourage the idea of inexperienced individuals going into independent pest control ventures. Failure for them is almost certain. And until such failure came, an influx of any large number of independent individuals into the field could play havoc with all established firms, not to mention giving a black eye to the entire industry. Modern pest control has long since passed the day of the one-bag outfit This should continue to be impressed upon those who are charged with the job of advising discharged veterans.

Packaging— a stepchild of Advertising...

*By Donald Deskey**

PACKAGING is the stepchild of advertising and its treatment at the hands of many companies merits examination. The product is the favorite child and its birth and development are normally put in the hands of carefully trained technicians and any changes in the product are the result of a conscientiously planned development program. Advertising, too, is put in the hands of a specializing agency and sufficient funds are set aside to plan and execute long range advertising and sales support for the product. But packaging (and its blood-brother, point of sale display) are (except in certain outstandingly successful companies) usually a hit-or-miss affair, perhaps not abused but at least neglected.

Who is usually responsible for packaging design in a company? Sales? Production? Advertising? Purchasing? Advertising agency? Outside vendors? Naturally, all these tools of management are vitally interested in packaging but none are apt to solve the complex problems involved to the best interests

* Address before 31st Annual Meeting, Nat'l Assn. of Insecticide and Disinfectant Mfrs., New York, Dec., 1944.

of the product. An advertising manager is not normally a plastics expert. A production manager can't be expected to pinch-hit in product testing.

What is the ideal solution—the perfect package with maximum sales appeal? One that brings "oh's" and "ah's" from the customer and converts him instantly and at first sight to a loyal and continuing consumer—easy to produce with no production changes—at no extra cost. I quote from "Package Production Planning" by C. O. Kendall, Manager of Packaging Development, E. R. Squibb & Sons:

"To sales, the perfect package is that which will outsell all competition. It is usually the most expensive of the alternate ideas proposed but this cost factor should miraculously not be reflected in the selling price of the product. It carries a design which will be constantly fresh and in step with the changing trend of the years but this is to be accomplished without changing the package appearance. Some people will like the old design.

"To the department responsible solely for the product, the ideal package is one which is sterile upon receipt, chemically inert, hermetically sealed, with unbelievable strength features, zero moisture-vapor transmission values and all qualities which make it impervious to extreme icebox or oven conditions.

"To production, the ultimately satisfactory package is one which will possess a mind of its own capable of effecting a physical adjustment to the eccentricities of weather, men and machines.

"To purchasing, perfect specifications are those which define an item immediately obtainable from the perfect source of supply—a source which they have pre-determined.

"The legal department usually has requirements which could only be met by a container which would collapse to minute size when viewed from the standpoint of out-age and expand to billboard proportions when inspected for type size and amount of copy carried. . . ."

This is the report of a manager of packaging development.

So we see that, in some companies, the design of the package is placed in the hands of a competent, highly trained individual responsible for a carefully planned, long range development program—and, I hope, with a sufficient budget allowance to permit an adequate study of the complex problems involved. The problem of creating a successful package (or, packaging a multiplicity of products) is complex because there are so many factors and variables that the permutations become endless.

TAKE a check list of requirements for the ideal package. It is apparent that the solution is more than one of aesthetics—and yet the redesign of many packages is too often treated as a simple label change—much like putting lipstick on a patient with cancer. Here is your check list.

1. *Convenience* (to the consumer). How used? Where kept? Size? Shape? How dispensed?
   Is it engineered to dispense your product with a maximum of consumer convenience?
   What is wrong with your package on this count if it contains
   Garden fertilizer
   Perfume
   Motor Oil
   Shampoo
   Cooking Oil
   Fly Spray
   Nasal Spray
   Insecticide
2. *Designed to Dealer Requirements.* Easy to handle, easy to stack, how displayed, how sold?
   Is it designed for self-service, etc.?

Example: *Film* packaged for quick identification of brand and item in brand
—front showing end showing
Coffee—whole bean, ground, pulverized
Oil—grade
Cigarettes—cork or plain

3. *Appearance.*
   a. Quick identification
   b. Memory factor
   c. Originality (different from shelf neighbor).
   d. Timeliness
   etc.
4. *Standardization* (in a line of products).
   Interchangeability—containers and closures.
5. *Resemblance* (in a family of products).
   Advantages and disadvantages.
6. *Protection of Product.*
7. *Informative Labeling.*
8. *Designed for Impulse Buying.*
9. *Low Cost for Materials and Handling.*
10. *Has your product an idea*—Has something new been added—an important factor for advertising and exploitation.
11. *What about pretesting your product?*

This is by no means a complete list and yet from these items stem other factors for further research and investigation. Take the investigation of materials alone. Forget about processes—improvement of old ones and new developments such as heat sealing and applications of ultra high frequency.

Glass—Bottles, jars, ampules.

Cans—Tin, bonderized, parkerized, vinyl coated, spiral wound, plastic impregnated.

Tubes—Aluminum, tin, plastic.

Bags—Glassine, cellophane, vinylite, paper, cotton, burlap, crinoline laminates.

Closures—Metal, plastic, cork, glass, paper.

Jars—Plastic, glass, ceramic, molded pulp and fiber.

Boxes—Cardboard, folding, wood, transparent plastic, metal, display, set-up, inside liners, outside wrappers.

Papers—One manufacturer advertises 230 protective packaging papers.

Labels—Printed, litho, embossed, screen printed, foil, decal.

Foils—Tin, lead, zinc, aluminum, alloys, laminates.

Inks—Color fast, odorproof, fast drying, wax set, resistant to acid, alcohol, soap, or your product.

ADD—Cups, pouches, rolls, case liners, and JUST KEEP GOING.

CONSIDER the work involved in checking new developments in materials and processes from the hundred and one outside vendors. What data is available for instance on such new packaging materials as:

Vuepar	Ethocel Sheeting
Geon	Saranfilm
Pliolite	Stripcoat
Clearsite	Corroflex
Kromkote	Molded Lustron
Kimpack	Pliofilm
Celoseal	

Over the past few years a number of new materials have been introduced which have proved very interesting to package designers. Wrapping materials are now available which are moisture- and vapor-proof, waterproof, light-proof, grease-proof, siftproof, odor-proof, insect-proof, freezproof, fool-proof, etc. Among the new materials of unusual interest is a self-sterilizing surface for packaging that kills certain germs (S-Coating), a starched crinoline laminated to double napped outing flannel (Aquatex), compounded latex and dispersions for coating, saturating and bonding fiber materials, metallic coated moisture- and vapor-proof barriers, thermoplastic coated stock for heat sealing, etc.

In the post-war period the task of checking on new developments will be an even greater one, as a result of the acceleration of technological developments due in part to wartime discoveries. The new internal pressure dispensers for aerosol insecticides, for instance, present a number of new and interesting packaging possibilities. Besides application in the post-war insecticide market, they may very possibly prove interesting for the dispensing of deodorants, floor and auto polishes, throat sprays, etc. Self-heating cans are another development that may have great post-war possibilities.

LEADING figures in the field of advertising and sales quite generally stress the importance of packaging. Consider, for instance, the following observations by Abbott Kimball from "Think Through To Point of Sale."

"Today, the manufacturer has to think his advertising and selling campaign right through to the final ring of the cash register. After all, the real objective in a race is the finish. The whole chain of manufacturing, designing, advertising and merchandising a product leads directly to that final crucial moment when madame at point-of-sale hesitates and either says 'I'll take it,' or 'No thanks.'

"It's right there that a manufacturer's whole campaign is lost or won. On what happens at point-of-sale depends the store's opinion of his products' salability, the amount of their reorder and the special featuring the retailer will do.

"Nevertheless, few manufacturers think beyond the closing date of the magazines where their advertisements appear, and still fewer take trouble to study the store conditions under which their dealer helps (if any) will be displayed."

Among the goals of the packing expert are the following:

1. Packages that will sell goods with a minimum of sales effort.
2. Packages which will encourage consumers to buy from one distributor as against his competitor.
3. Packages which will help produce a faster turnover enabling the retailer to work on a lower markup.
4. Packages which will encourage sales of several pairs at a time.

Impulse sales, with greater emphasis on packaging and display were the main theme of a talk made by M. C. Pollock of the cellophane division of E. I. du Pont de Nemours & Co., Inc., before the packaging forum of the National Association of Display Industries at the Hotel Pennsylvania at their 1944 gathering. According to scientific studies, "85 percent of all buying is done through the eyes," said Mr. Pollock, and he further claimed that this could be developed into an important, post-war vehicle for lowering retail operating costs through the medium of self-service. He went on to say that in order to design post-war packages it has been necessary to consider the trends of self-service, informative labeling convenience, protection, impulse buying and visibility." Packaging which takes these factors into account protects the merchant against markdowns resulting from shop wear and soilage," he concluded.

YET packaging still remains a stepchild—something to be handled as an extra-curricular activity by advertising, sales, or purchasing. The advertising agency is not equipped to take over the function in its entirety (but only to counsel on aspects within its jurisdiction). Too often it is put up to outside vendors to solve the problem. They can be extremely helpful in giving information about their

(*Turn to Page* 125)

New British Insecticide

ANNOUNCEMENT of a new British insecticide, "Gammexane," was made recently by Dr. Roland Slade, M.C., in the Hurter Memorial Lecture. This new organic chemical now being produced by Imperial Chemical Industries Ltd., is claimed to be particularly effective against the African migratory locust, *Locusts migratoria migratorioides* R and F.; house cricket, *Gryllulus domesticus L.;* body louse, *Pediculus humanus L.;* bed bug, *Cimex lectularius L.;* various leaf eating larvae and beetles, weevils, ants and wasps, etc.

The development of Gammexane" commenced with a long series of experiments carried out by the entomological section of the I.C.I. in 1934 when many thousands of chemicals were tested. Over a period of five years, many substances were found to be poisonous to insects but none of them so effective as pyrethrum or rotenone. It was then decided to change the method of attacking the problem, and instead of testing large numbers of chemicals the research workers selected certain insect pests and sought for the chemicals and methods best suited to fight them. Early in 1942, a search was made to find a substance to kill the turnip flea beetle and among the chemicals tried out was 1.2.3.4.5.6. hexachlorocyclohexane (benzene hexachloride, the chemical formula of which is $C_6H_6Cl_6$ or 666 for short). This was found by F. J. D. Thomas to be promising and field experiments were undertaken.

As the result of the numerous tests carried out it was decided to use 666 in place of derris in flea beetle powder, and in 1943 some hundreds of tons of the powder were sold and proved as effective as preparations made with derris. Meanwhile it had been noticed that different samples of 666 gave inconsistent action, and it was decided to try and find the reason for this. K. C. Webster investigated both the possibility of an impurity being the active principle, and also the toxicity of the various isomeric forms in which 666 was known to exist.

Late in 1942 pure specimens of the alpha and beta isomers of 666 had been prepared by J. C. Smart and their toxicity to insects investigated by F. J. D. Thomas. It was found that both isomers were relatively inactive to weevils, the beta isomer being practically non-toxic. Early in 1943 the gamma isomer was isolated and found to be more toxic to weevils than any substance which had ever been tested in the I.C.I. laboratories. It was thus established that the insecticidal action of 666 was due almost entirely to the presence of Gamma 1.2.3.4.5.6. hexachlorocyclohexane, which was called "Gammexane." This, the active principle of 666, is present to the extent of 10-12 percent in the crude material.

Unlike many insecticides, "Gammexane" has proved to be exceptionally stable to high temperatures. This enables it to be applied by volatilization from hot plates, or by other heating methods, producing the insecticide in the form of a "smoke." By these methods the insecticide may be used directly against insects or to give a toxic film on walls, etc. Solvent solutions of 666 or "Gammexane" can be prepared, and by the addition of an emulsifying agent such as selected turkey red oil, concentrated solutions can be prepared which on the addition of water give a stable emulsion suitable for use in the field.

"Gammexane" has been shown to be highly toxic to many insects and certain other pests. The range given by Dr. Roland Slade is as follows:

Insects

Insects

Orthoptera—African migratory locust, *Locuste migratoria migratorioides R & F.*

House cricket, *Gryllulus domesticus L.*

German cockroach, *Blatella germanica L.*

Oriental cockroach, *Blatta orientalis L.*

Anopleura—Body louse, *Pediculus humanus L.*

Hemiptera—Bed bug, *Cimex lectularius L.*

Lepidoptera—Various leaf eating larvae, e.g. Cabbage caterpillars, *Pieris spp.* Winter moth caterpillars, *Cheimatobia brumata.* Clothes moth caterpillars, *Tineola bisselliella Hun.*

Melon worm, *Diaphania hyaliniata L.* Southern armyworm, *Laphygma eridana Cram.*

Southern beet webworm, *Pachyzancla bipunctalis F.*

Coleoptera—Various flea beetles, *Phyllotreta spp.*

Mustard beetle, *Phaedon cochleariae F.*

Blossom beetle, *Meligethes aeneus F.* Apple blossom weevil, *Anthonomus pomorum L.*

Pea and bean weevil, *Sitones Lineatus L.*

Grain weevil, *Calandra granaria L.*

Hide beetle, *Dermetes vulpinus F.*

Hyenoptera—Wasps, e.g. *Vespidae spp.* Ants, e.g. *Lasius spp.*

Diptera—Various mosquitos, e.g. *Aedes aegypti L.* (larvae and adult *Anopheles gambiae Giles A. maculipennis Migan Theobaldia spp., etc.*

Housefly, *Musca domestica L.*

Sheep ked, *Melophagus ovinus L.*

Aphaniptera—Various fleas, e.g. *Ctenocephalus spp.*

Arachnide—Poultry red mite, *Dermanyssus gallinae De Geer.*

Sheep tick, *Ixodes vicinus L.*

Crustacea—Woodlice, *Oniscidae spp.*

etc.

Some interesting figures were given by Dr. Slade regarding the strength of "Gammexane" required to give 50 percent kill in 6 or less days to various insects and pests. In the case of the grain weevil, the actual amount of the insecticide required to give 50 percent kill in 6 days was 0.7 part per million of the weight of the grain. In tests carried out against the African migratory locust, it was found that in poison bait experiments, a concentration of 0.02 percent crude benzene hexachloride 666 (containing 10-12 percent Gammexane) gave a kill of 62 percent in 2 days, against 57 percent kill for a concentration of 0.2 percent D.D.T., and 4.0 percent sodium arsenite.

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STABILITY TESTS *for* EMULSION WAXES

By J. S. Brancato

MOST manufacturers of emulsion waxes experienced considerable trouble early in 1943, due to the restriction in the use of shellac in no-rub wax polishes. Dave E. Smalley, writing in a recent issue of *Flooring*, sums up the thoughts and opinions of many manufacturers during this period, in regard to the use of shellac.

"Previous to war restrictions its functions were thought to be minor ones—those of a leveling agent and a means of reducing the cost. When its use was suddenly banned by the War Production Board, it was found to be the 'Keystone' of the product. Without it, the product soon fell literally apart. Countless thousands of gallons of water wax emulsions 'set up' and temporarily threw their makers into a panic.

"Some manufacturers thought it was caused by the wooden barrels they were forced to use in lieu of steel drums. Others blamed it on to some change in the emulsifying agents. By the time the true cause was discovered, the War Production Board had modified its order and the restricted ingredient could again be used.

"After years of manufacturing water waxes, it took the war to reveal the importance of a phase hitherto regarded as incidental. It was only one of several similar disclosures which have upset old notions and started manufacturers to thinking along new and more progressive lines."

Although the majority of wax emulsions use shellac as part of their composition, it does not necessarily require shellac solutions to keep the products stable. Nevertheless, shellac is the "keystone" to most products. During this early part of 1943, it seemed almost as though the industry was back again where it started in the early 30's. Emulsions began to "set up" in cans, on dealers' shelves, in consumers' closets. Emulsion waxes were being returned to manufacturers for credit and the manufacturers headaches mounted with each day as the accumulated gelled material began to flow back.

Chemists hastily dropped other work and began to devote time to this problem. For a while shellac substitutes were thought to be the answer and many manufacturers began experiencing trouble where no trouble was encountered before. These substitutes soon fell into disrepute, and were mostly abandoned. Nothing seemed to work to keep emulsions from gelling, and where gelling was control.ed by the use of ammonia to the desired pH, or where other means were resorted to to prevent this gelling, the product always seemed to lack that something which made it perform as it did previously with shellac.

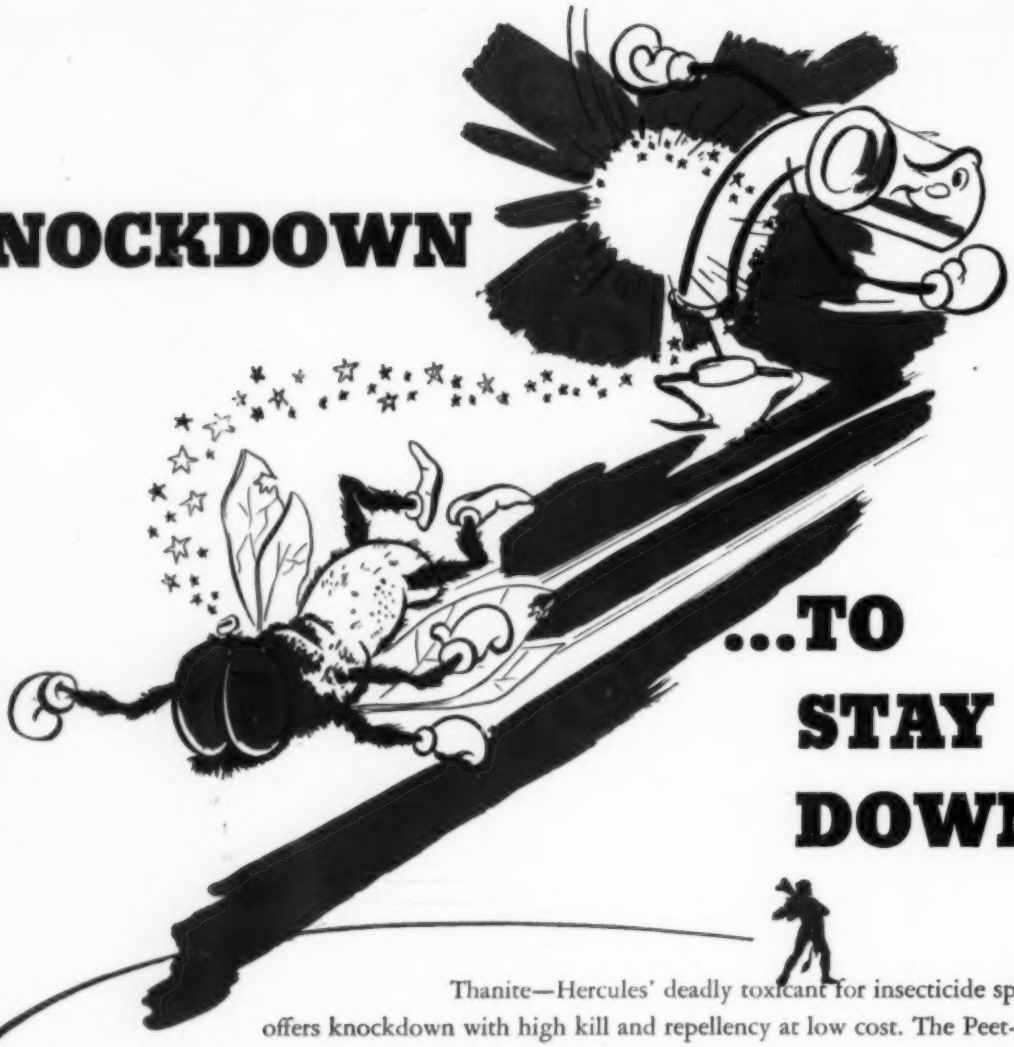
New formulations were hastily made up and sold with the hope that they would not gell. Some formulations proved valuable and others were worse nightmares. New accounts came into existence (because of their disgust with some competitor's product), while many manufacturers experienced the loss of old customers for the same reason. It became increasingly imperative that some means be devised to check the stability of the emulsions being manufactured.

Although accelerated tests were known, there was no agreement among chemists as to the optimum temperature to which to subject the emulsions in order to arrive at some worthwhile conclusion. Some subjected them to temperatures ranging from 100-170° F. for various length of time. The method outlined in Gardner's Work—*Paint, Varnish, Lacquers, Colors*, predicted nothing dependable in regard to stability. The only true yardstick was shelf testing and there was no time for shelf testing. Those concerns which had not had the foresight to anticipate the possible need for changes in formulations to meet wartime shortages of raw materials, had no formulations with which to step into the breech and experienced some difficult and trying times.

About this time an associate of Foster D. Snell, read at the annual meeting of NAIDM, a paper on the stability of emulsion waxes. It was proposed in this paper that a method be adopted for determining the stability of wax emulsions. This was the first clear-cut, most constructive piece of work ever submitted on the stability of wax emulsions. Here at last was a good start in predicting stability. In the absence of any other reliable guide, this test was hailed as a godsend by the harassed chemists. There is no doubt that it is a very valuable test in predicting the stability of emulsion waxes, and it has its excellent points. Unfortunately it is not as reliable as we would desire it to be, but the author of the paper, in our opinion does not intend it to be a yardstick for stability of any and every wax emulsion. In the absence of any other test, this test is the best in use and there are countless manufacturers using this method of stability testing.

Recently the U. S. Bureau of Standards issued a tentative draft of a proposed commercial standard for water emulsion floor waxes. In connection with this proposed standard a stability test for emulsion waxes is given which, with an added modification, is

KNOCKDOWN



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essentially the same as originally proposed by Foster D. Snell. We do not know at this time if the proposed standard will be accepted as a standard test. but the fact remains that many purchasers of emulsion waxes use this test for stability. It is unfortunate that this is so, because in our opinion this test is not a true test for every emulsion formula and many good products are being passed up by purchasers. If it is made a standard test, many manufacturers with stable products are going to lose some business because their products will not hold up under the stability test as proposed. Many chemists are also using this method for stability testing on new formulations and a number of cases have come to our attention where new formulae are being discarded because they do not meet the particular stability test.

There is only one reliable test and that is shelf-testing. We would warn formulators not to discard formulae, but to shelf-test them for at least eight months before condemning them as unstable. If a product will remain stable for eight months it can be regarded as a good formula in regards to stability. Of course this necessitates long periods of time to ascertain if a product is safe to manufacture, but after all, reputable manufacturers want to produce good products and the reputable manufacturer can wait at least eight months before putting a new product on the market. At least he knows then for his own welfare as well as his customer's that the product is stable and not likely to gell in the containers. It would be a good policy for every manufacturer to institute this eight month shelf testing policy to protect himself and his customers.

As an example, to show that the proposed stability test is not reliable for every emulsion, we will cite a series of experiments we conducted when we were evaluating this stability test. We selected one of our products in particular; a 100 per cent carnauba wax emulsion with 20 per cent by volume of shellac solution and with an average solids concentration of 18 per cent. This product has been in production for a number of years, never having brought us any complaints of gelling in containers. It has given very satisfactory results in the field, is our best seller and would form an excellent formula to test the reliability of the stability test.

A series of tests were conducted, all samples being taken from regular factory runs and from which samples are kept by our control laboratory. All tests were conducted at 125° F. in tall narrow 2 oz. bottles, tightly capped, each sample being triplicated. Following are the tests and the results thereof:

TEST I

Batch #		*Stability*
5443	Emulsion Only—18% S.C.	3 bottles—all gelled 1 day
5443	Ammonia to PH8-8.5 18% S. C.	O.K. 3 bottles
5443	1% Wetting Agent 18%	O.K. 3 bottles
5443	2% Wetting Agent 18% S. C.	O.K. 3 bottles
5443	3% Wetting Agent	Gelled 3 bottles 1 day
5443	Shellac in regular proportion 20% by volume—18% S. C.	O.K. (Reg. batch run sample in control lab o.k. after 1 year.)
41342	Batch sample appr. 1 yd. old which was O.K. 18% S. C.	O.K. 3 bottles
41741	Batch sample appr. 1½ year old which was O.K. 18% S. C.	2 Gelled. 1 O.K.
22443	Reg. batch sample with regular amount of shellac. 18% S. C.	Gelled 3 bottles 1 day. Reg batch run sample in control lab still O.K. after 1 year.
51243	Emulsion only 18% S. C.	Gelled 3 bottles 1 day
51243	Ammonia proportion as in reg. amount of shellac to be used. 18% S. C.	Gelled 3 bottles 1 day
51243	Reg. batch. Shellac in regular amounts. 18% S. C.	Gelled 3 bottles 1 day. Batch sample in control lab still O.K. 1 year.
41343	Emulsion only. 18% S. C.	O.K. Sample of emulsion only, kept in control lab. Gelled in 25 days.
41343	With reg. amount of shellac. 18% S. C.	3 bottles gelled 1 day. Batch sample. Sample in control lab still O.K. 2 years.
41343	Reg. amount of ammonia as would be present in regular amount of shellac. 18% S.C.	O.K. 3 bottles
41343	Wetting agent 2%. 18% S. C.	O.K. 3 bottles

The following tests were conducted with increasing amounts of shellac up to regular amount of shellac per batch

Batch #		*Stability*
51843	25% of reg. shellac solution to batch	Gelled 1st day—3 bottles. Lab. sample 2 years old. O.K.
	30% of reg. shellac solution to batch	Gelled 1st day—3 bottles. Lab. sample 2 years. O.K.
	37.5% of reg. shellac solution to batch	1 gelled 1st day and 2 gelled 2nd day. 3 bottles lab. sample 2 years old. O.K.
	47.5% of reg. shellac solution to batch	2 gelled 1st day and 3rd gelled 2nd day. 3 bottles lab sample 2 years old. O.K.
	50% of reg. shellac solution to batch	3 bottles gelled 2nd day. Lab sample 2 years old. 3 bottles. O.K.
	Reg. amount of shellac solution to batch	2 bottles gelled 1st day and 3rd bottle gelled 2nd day. Lab sample 2 years old. O.K.

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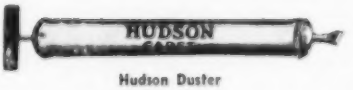

Hudson Duster

Hudson Wizard Electric Sprayer

TEST II

Ammonia added to batch in proportion present in regular shellac solution

Batch #		Stability
51843	20% of reg. ammonia to batch	1 gelled 1 day. 2 O.K. last day.
	30% of reg. ammonia to batch	1 gelled 1 day. 2 O.K. last day.
	37.5% reg. ammonia to batch	O.K.
	47.5% reg. ammonia to batch	1 gelled last day. 2 O.K.
	50% reg. ammonia to batch	O.K.
	Full amount of ammonia as in reg. batch	1 gelled last day. 2 O.K.
51843	Reg. amount of shellac in batch	3 gelled 1st day. Lab sample O.K. after 2 years.

TEST III

Shellac solution and ammonia. Shellac decreased and ammonia increasing, up to regular amounts in a regular batch

Batch #		Stability
51843	25% shellac solution	1 gelled 1st day, 1 gelled 2nd day.
	75% of reg. amount of ammonia	1 O.K. last day.
	30% shellac solution	1 gelled 1st day, 1 gelled 2nd day.
	70% of reg. amount of ammonia	1 O.K. last day.
	37.5% shellac solution	2 gelled 1st day
	62.5% ammonia	3rd gelled last day
	47.5% shellac solution	3 gelled 1st day
	52.5% reg. amount of ammonia	
	50% shellac	1 gelled 1 day, 1 gelled 2nd day
	50% ammonia	1 O.K. last day
Wax B17—18%	2 years old—good condition	gelled 1st day
C 18 18% —	2 years old—good condition	gelled 1st day
PW4 12%	5 years old (2 batches)—good condition	gelled 1st day
C 18 ¼ shellac	O.K. 2 years—good condition	gelled 1 day
CHL Special	12%. 2 years old—good condition	O.K.
C 18 A	1½ years old	gelled 1 day
7-19-44 B	12%. 1 year old—good condition	gelled 5 days
Competitor's Wax	3 years old—good condition	gelled 1 day
Competitor's Wax	O.K. 1 year—good condition	gelled 2 days

IN our estimation the above tests prove that the method is not reliable. As the tests show, samples that had been perfectly stable for one, two or three years at ordinary room temperatures, when subjected to the stability tests showed a definite lack of stability. Also, the tests showed that some batches would not be stable, but upon ageing them at room temperature for approximately two years they still showed good stability.

If this test had been in vogue at the time our outstanding formula was originated, the product, not meeting the gelling test, would have been discarded and an excellent formula would never have been used. Of course the product was shelf-tested for at least eight months before it was decided to put it in production. Up to date, the writer has not seen a stability test that warrants any justification for use as a standard practice.

One thing can be said for this particular test and that is if the stability test shows a formula to be stable, there should be no hesitation in adopting the formula and putting the product into production. However, if the stability test shows that it will not be stable, it would then be necessary, we think, to shelf-test the product.

This article is written solely because of the numerous times that the question of stability has come to our attention from other chemists and other manufacturers and, what was more disquieting, from prospective purchasers. When prospective purchasers begin to cite this test as a condition for a sale, we feel that the condition should be remedied and the facts brought to light. There is no doubt that the stability test as it stands has some real value, but we feel that more research should be conducted on this phase of stability testing.

It may hold true for certain types of formulation,—those having particular components,—and undoubtedly it is a splendid check for products of this type. We do know however from our experience, that it is not practicable to rely on this test for all emulsion waxes, and expect dependable results. It is for this reason we believe that reference in any specification, proposed or otherwise, to the stability of an emulsion, is at this time unwarranted. Further, due to the numerous times we have encountered heat stability tests as checks on potential products, we feel that stability tests of this kind should not be the final word. We believe any reputable manufacturer should shelf test his product for at least eight months at room temperature and then decide what the stability may be from the results obtained.

Perhaps a quick, easily conducted method to determine stability could be evolved if other methods should be used. There is no doubt that much exploration needs to be done before a reliable method of stability testing will be applicable to any type emulsion. Just as this article is being finished the writer has received communications from the chief chemists of three prominent wax emulsion manufacturers expressing their views on this particular stability test, all of whom condemn it and testify that in their experience it is highly unreliable.

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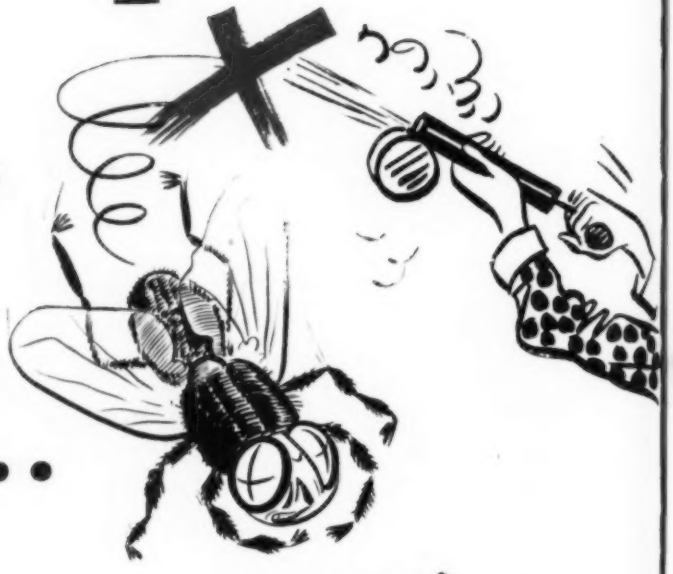

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The Setting Point of DDT[1]

By Elmer E. Fleck and Robert K. Preston

Bureau of Entomology and Plant Quarantine
U.S.D.A.

IN manufacturing DDT by the method of Zeidler (1) chloral is condensed with chlorobenzene in the presence of sulfuric acid. The chief product of the reaction is 2,2-bis(*p*-chlorophenyl) - 1,1,1 - trichloroethane, but the low melting point of the crude product, together with the chlorine analysis, indicates the presence of other isomeric compounds.

In the absence of a direct method for the determination of the amount of the pure compound in the technical grade of DDT, the setting point has been adopted as a criterion of the quality of the product.[2] It therefore becomes of interest to determine the effect of varying amounts of isomers on the setting point.

In this work a study was made of the setting point of mixtures of 2,2 - bis(*p* - chlorophenyl) - 1,1,1 - trichloroethane and 2-*p*-chlorophenyl-2 - *o* - chlorophenyl - 1,1,1 - trichloroethane. In technical DDT other isomers and impurities are present; hence the results obtained in this work should be regarded only as rough approximations of the DDT content. The technique adopted was that currently used in industrial control work.[2] The setting point as determined by this method is an empirical value, which should not be confused with the cooling-curve method of studying alloys first proposed by Tamman (2).

In order to obtain a check on the relationship of this setting-point curve to the amount of 2,2-bis(*p*-chlorophenyl) - 1,1,1 - trichloroethane present in the technical grade of DDT, a sample of technical DDT was recrystallized from alcohol. Material of setting point 91.2° C. gave 57 per cent of 2,2 - bis(*p* - chlorophenyl) - 1,1,1-trichloroethane of melting point 107-108° C. The amount dissolved in the mother liquors was approximated by using the known solubility of this compound in alcohol. With this correction the amount present in the sample of technical DDT is calculated to be 70 per cent. As estimated from the setting-point curve of the mixtures of the two isomers, this amount would be 75 per cent. Because of the unknown effect of the other impurities on the solubility of DDT in alcohol, these results should be regarded only as a rough check.

Materials Used

The 2,2 - bis(*p* - chlorophenyl) - 1,1,1-trichloroethane used for these determinations was prepared by repeated recrystallization of technical DDT from alcohol. It melted at 108-109° C. and had a setting point of 108.2° C.

The 2 - *p* - chlorophenyl - 2 - o - chlorophenyl-1,1,1-trichloroethane was obtained through the courtesy of P. D. Bartlett and G. P. Mueller, of Harvard University, who isolated it from technical DDT. The material melted at 73.5-74.5° C. and had a setting point of 71.8° C.

Apparatus and Procedure

A test tube 25 by 200 mm. was fitted into a 4-oz. jar of such shape as to provide an air jacket about 1 cm. thick around the portion of the test tube that contained the melted sample. The test tube was held in place in the jar with a loosely fitting stopper and was fitted with a glass ring stirrer and a thermometer graduated in fifths of a degree (Manufacturing Chemists Association R Series, Partial Immersion).

The test tube was removed from the stopper and 30 g. of the sample was packed into it. The sample was then completely melted in an oil bath heated to 115-125° C. The thermometer was used as a stirrer to speed up the melting as much as possible. The temperature of the melt was brought to 115° for concentrations of 2,2 - bis(*p* - chlorophenyl) - 1,1,1-trichloroethane of 50

Table I

2,2-bis(p-chlorophenyl)-1,1,1-trichloroethane *Percent*	2-*p*-chlorophenyl-2-*o*-chlorophenyl-1,1,1-trichloroethane *Percent*	Low point ° C.	Setting point ° C.
0	100	59.8	71.8
10	90	50.9	57.6
20	80	42.1	46.8
25	75	36.6	39.1
30	70	37.2	42.2
40	60	43.6	48.4
50	50	58.7	62.8
		58.4	63.2
60	40	74.2	77.6
		74.5	77.0
70	30	83.8	86.5
		82.8	87.2
80	20	92.5	95.2
90	10	93.4	101.1
100	0	——	108.2

[1] Some of the work reported was done under a transfer of funds, recommended by the Committee on Medical Research, from the Office of Scientific Research and Development to the Bureau of Entomology and Plant Quarantine.

[2] Quartermaster Corps Tentative Specification, JCQD No. 1005A 29 December 1944.

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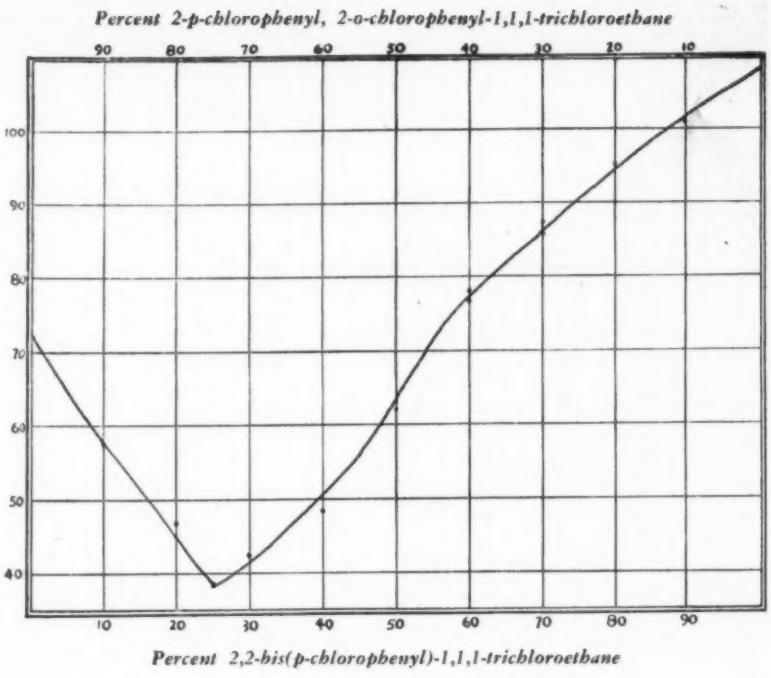
per cent or more and up to 100° for lower concentrations. These temperatures were held until the sample was completely liquid.

The test tube was then removed from the bath, wiped free of oil and placed in the stoppered jar. The thermometer was clamped in place so that the bulb was about 1 cm. above the bottom of the test tube so as to maintain good contact at all times with the sample. The sample was stirred until the stirrer froze in it. All samples were seeded with appropriate mixtures of the two components in order to minimize supercooling.

The temperature of the melt was observed as soon as crystallization began. The low point was taken as that temperature at which the rate of evolution of heat of crystallization exceeded the rate of heat loss of the system and caused the temperature to begin to rise. The setting point was taken as the maximum temperature reached during this rise.

The results of these determinations are given in the accompanying table and figure.



Recrystallization of Technical DDT

One hundred fifty grams of technical DDT (setting point 91.2° C.) was dissolved in 500 ml. of boiling 95 per cent ethyl alcohol. The unfiltered solution was cooled to 30° C. and held at this point with frequent stirring for one-half hour. The mass was then filtered with suction. The volume of the filtrate was 400 ml.

The wet filter cake was dissolved in 800 ml. of boiling alcohol, and the solution was filtered hot to remove inorganic materials. The filtrate was cooled to 30° C. and held at this point for one-half hour. The mass was then filtered with suction. The volume of the filtrate was 700 ml. The cake was dried in vacuum at room temperature. The product weighed 87 g. and had a melting point of 107-108° C.

The solubility of 2,2-bis(*p*-chlorophenyl)-1,1,1-trichloroethane in alcohol at 30° C. is 1.6 g. per 100 ml. This would account for 17.6 g. of this compound in the mother liquors of the two crystallizations. Thus there was a total of 104.6 g. in the original 150 g., or 70 per cent.

Summary

The setting-point curve for mixtures of 2,2-bis(*p*-chlorophenyl)-1,1,1-trichloroethane and 2-*p*-chlorophenyl-2-*o*-chlorophenyl-1,1,1-trichloroethane has been determined. The content of 2,2-bis(*p*-chlorophenyl)-1,1,1-trichloroethane in technical DDT, as indicated by the setting point, has been compared with that obtained by recrystallization of the technical DDT from alcohol.

References

1. Zeidler, O., Ber. 7; 1180-1 (1874).
2. Tamman, G., Z. anorg. Chem., 37, 303 (1903): 45, 24 (1905).

Pyrethrum Drying

Quick drying in the sun did not affect the pyrethrin content of the flowers but prolonged sun and shade-drying caused appreciable losses. Drying artificially at temperatures up to 122° F. did not affect the pyrethrin content but at 140° F. appreciable losses occurred. Up to 120° the dried flowers were bright, the receptacles green, the ray florets white and the disk clear yellow. Above this temperature discoloration increased and at 212° F. the color was very brown. It is recommended that the temperature in drying houses not exceed 130° F. with 120° preferred. The design and operation of drying houses are discussed in detail. V. A. Beckley and F. McNoughtan. *Rhodesia J. Agr.* 41, 313-24.

Sabadilla Seed

Sabadilla seed is finely ground, then heated for about 1 hour at 150°C. for use in an insecticide. If it is to be used as liquid or spray, it may be previously mixed with a solvent such as kerosene, preferably about ½ pound of powdered seed to 1 gallon of solvent. To this solution is added about 1 per cent by weight of "Lethane," which exhibits a synergistic effect, increasing the toxicity of the extract considerably. T. C. Allen and R. J. Dicke, to Wisconsin Alumni Research Foundation. U. S. Patent No. 2,348,949.

Preventing Book Damage

Damage to paper, books and documents by silverfish, cockroaches, book lice, drugstore beetles and the common clothes moth can be controlled by dusting the shelves and books with pyrethrum or a mixture of 12 parts of sodium fluoride and 100 parts of wheat flour, or by para-dichlorobenzene. F. D. Armitage. *Patra J.* 8, 40-9.

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TECHNICAL Briefs

From Current Literature in the Sanitary Products Field

Mosquito Repellents

To combat disease-carrying insects such as mosquitoes, dimethyl phthalate is used with various proportions of 2-ethyl-1,3-hexanediol and butyl mesityl oxalate. This may be applied to the skin or to clothing. B. V. Travis and H. A. Jones, to the Secretary of Agriculture of the U. S. A. U. S. Patent No. 2,356,801.

Germicide for Surgical Use

A germicidal liquid for sterilizing surgical instruments is made of formaldehyde 4 per cent, alcohol about 70, water 10, thymol 0.063-0.5, hexamethyleneamine 0.063-0.5, and solvents 15 per cent. The solvent mixture contains methanol and acetone in a proportion of 1 to 0.5-2. A. L. Waugh. U. S. Patent No. 2,347,012.

Aerosol Insecticides

The structural details of an apparatus suitable for disseminating an insecticide or fumigant are described, such as an insecticide containing 5 per cent of a 20 per cent pyrethrin solution, 2 per cent of sesame oil and 93 per cent of difluoro dichloro methane. L. Nusbaum. U. S. Patent No. 2,355,550.

Bacteriostatic Activity

A rapid method for estimating the bacteriostatic activity of disinfectants is based on the ability of the antiseptic to inhibit nitrate-nitrite reduction. It consists of allowing various dilutions of the antiseptic to remain in contact with a broth culture of the test organism for a period of time, adding potassium nitrate, and after an incubation period testing for the presence of nitrite. FDA strain 209 *Staph. aureus* was used. W. A. Randall and C. W. Price. *J. Lab. Clin. Med.* 29, 312-13.

Reducing Agent in Germicides

To increase germicidal power, chlorophenol or sulfophenol is mixed with an equimolecular proportion of a soluble, metallic, nonprecipitant reducing agent such as ferrous chloride, ferrous sulfate, manganous chloride or sulfate. A. J. Salle and H. L. Guest. U. S. Patent No. 2,354,334.

Mothproofing Wool

A composition for mothproofing woolens contains pure salicylic acid as the mothproofing agent, also a trace of resin and plasticizer, for example gum kauri and triphenyl phosphate. An organic hydroxy solvent such as Cellosolve may be present, with several times as much water to serve as the emulsion medium. H. N. Mitchell, to M. H. Hoepli. U. S. Patent No. 2,351,359.

Liquid Polish

A viscous liquid abrasive polish for use on lacquered and enameled surfaces comprises an oil-in-water emulsion having finely divided feldspar abrasive particles suspended in it and including a readily vaporizable mineral oil product such as kerosene as the dispersed phase, and water as the continuous phase. The weight of oil should be at least three times that of the water. A water-soluble emulsifying agent is used such as "Orvus" or "Dreft," in a small proportion. B. J. Oakes and D. K. Murray. U. S. Patent No. 2,356,792.

DDT for Potato Insects

In field experiments, DDT used in concentrations of 1-5 per cent as a dust in Pyrax ABB was very effective in controlling both mandibulate and haustellate insects in potato fields. DDT was not toxic to potato foliage and appeared to have considerable fungicidal value against late blight of potatoes. It was very effective against flea beetles in a concentration as low as 1 per cent, and against potato leafhoppers at 5 per cent. A. A. Granovsky. *J. Econ. Entomol.* 37, 493-9.

New Insecticide Ingredient

The active ingredient of a new insecticide which attacks both plant and animal pests is a para-phenoxy diphenyl ether, especially its chlorinated and nitrated derivatives. To obtain this compound potassium phenolate in an excess of phenol is caused to react with dibromobenzene in the presence of copper powder at a temperature of about 200°C. The product is a high-boiling solid, stable, colorless, insoluble in water but soluble in most organic solvents such as acetone, benzene or kerosene. Auxiliary materials may be added. E. W. Bousquet and H. G. Guy, to E. I. du Pont de Nemours & Co. U. S. Patent No. 2,347,393.

Hard Wax Substitutes

Products are formed by the reaction of monoethanolamine with hydrogenated castor oil, containing major portions of alkylolamides of the fatty acid radicals, consisting principally of those of hydroxystearic acid. Minor portions of glycerine are present. J. J. Kelley, to National Oil Products Co. U. S. Patent No. 2,356,408.

Insecticidal Spray

Ortho-Allyl phenol is used with pyrethrum or rotenone in a petroleum distillate as an insecticidal spray for combating flies and mosquitoes. E. Harvill, to Boyce Thompson Institute. U. S. Patent No. 2,355,974.

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Review of Insecticides

Of the inorganic insecticides, cryolite for agricultural purposes and sodium silicofluoride for poisoning grasshopper and Mormon cricket baits seem to offer the greatest promise. Nicotine aerosols and nicotine bentonite seem destined for greater post-war usage. Methyl bromide has enjoyed the greatest acceptance in the fumigant field. Of the synthetic contact insecticides, dodecyl thiocyanate and isobornyl thiocyanate are in large commercial use.

Among the synthetics offering possibilities as substitutes for lead arsenate are phenothiazine, phenothioxin and xanthone. Of the fungicides, the following compounds show promise in easing the burden on copper needed for war purposes; 2, 2'-diamino diphenylamine, phenothiazone, dimorpholine thiuram disulfide, ferric dimethyl dithiocarbamate. The pyrethrin aerosols made with "Freon 12," carbon chlorofluoride, are destined for widespread post-war use. R. C. Roark. *Chem. Eng. News* 22, 1464-9 (1944).

Rat Poisons

Neither natural sodium aluminum fluoride at 33.6 grams per kilogram, nor synthetic cryolite at 2 grams per kilogram, was acutely toxic to rats when administered by injection into the stomach. Sodium silico fluoride at 275 mg. per kilogram produced illness for three days, and at 375-400 mg. per kilogram death occurred in 3-32 hours. The non-toxicity of sodium aluminum fluoride reported by others is confirmed. H. L. Sweetman and A. I. Bourne. *J. Econ. Entomol.* 37, 299-300 (1944).

Waxless Polishes

Waxless polishes may be prepared on a basis of stearic acid of which a part is saponified and the remainder dispersed through the saponified part to a fine emulsion. Caustic potash, potassium carbonate or ammonia should be used for saponification. A hard stearic acid is required to give a high gloss. Pearliness is prevented by careful addition of oil or lanolin. Preservatives against mold must be added. Water- or oil-soluble dyes or small quantities of pigments may be used for color. L. Schon. Paint Manufacture 14, 157-9 (1944).

Mosquito-proofing of Stockings

To ensure protection against mosquitoes, stockings are impregnated with quaternary ammonium compounds of the general formula $ROCHXNR_1R_2R_3\,M$, where R is an aliphatic radical and M is a halogen. After impregnation the stockings are dried at 100-50°C. Zschimmer & Schwarz Chem. Fabrik Dolau. Belgian Patent No. 445,499.

Emulsifiers from Morpholine

Emulsifiers for rubless waxes and polishes are prepared from morpholine or its addition and substitution products, and a fatty acid. An example of a rubless polish is prepared from 72 parts of carnauba wax, 15.3 of oleic acid, 14.4 of morpholine and 430 of water. The ingredients are melted and stirred together. To them are added preheated shellac 10 parts, morpholine 1.1 part and water 100 parts by weight. A. L. Wilson, to Carbide and Carbon Chemicals Corp. U. S. Patent No. 2,349,326.

Pyrethrum Synergists

Sesame oil, ethylene glycol ether of pinene and N-isobutyl undecylenamide increase the toxicity of pyrethrins to the body louse. The amide compound was the most effective, increasing the initial toxicity of the pyrethrins about 100 times. A powder containing 1 per cent of pyrethrins in pyrophyllite was effective for 4 days while a powder containing 0.2 per cent of pyrethrins and 2 per cent of the amide in pyrophyllite was effective for 8 days. R. C. Bushland, G. W. Eddy and E. F. Knipling. *J. Econ. Entomol.* 37, 556-7.

Nontoxic Insecticide

An insecticidal composition of good lethal effect on melon, beet and like worms, but nontoxic to humans, is made of 4-phenyl morpholine or its substitution products. The material may be dry-ground and applied as dust to the vegetation, or as a spray in water containing wetting agents or stickers. It may be used in conjunction with various inert diluents such as talc and bentonite. S. I. Gertler and H. L. J. Haller, to the Secretary of Agriculture of the U. S. U. S. Patent No. 2,349,344.

Livestock Sprays

Results of two years of experiments with sprays on dairy cattle show that spraying 5 cc. of oil per 2 square feet of skin surface gives no differences between any of the oils examined. Ten cc. per 2 square feet gave marked differences. The best index of the effect of an oil on the skin was the percentage of unsulfonated residue. Oils showing 92.5-100 per cent of unsulfonated residue were most satisfactory, while those showing 87.5 per cent or lower gave the most satisfactory skin reactions. F. W. Atkeson, A. R. Borgmann, R. C. Smith and A. O. Shaw. *J. Econ. Entomol.* 37, 419-28 (1944).

Fumigation against Lice

A number of fumigants were tested against body lice in small and large-scale experiments at varying temperatures. In bins of 3.7 cubic feet capacity, the dosages in cc. per cubic foot for complete kill were as follows:

	cc. per cubic foot for complete kill								
	After 1 hour			*After 2 hours*			*After 5 hours*		
	10° C.	20° C.	30° C.	10° C.	20° C.	30° C.	10° C.	20° C.	30° C.
Methyl formate.....	38	27	—	27	21.5	—	19	13.5	—
Ethyl formate.....	30	24	16	24	19	11	11	8	8
Beta-Methyl allyl chlor	41	19	8	33	8	4	8	4	2.75
Ethylene dichloride....	—	—	—	—	—	—	40	43	33
Trichloroaceto nitrile...	12	5.5	4	5.5	4	4	4	1.35	1.35

The first four fumigants are comparatively safe and pleasant to handle, but may require heavy dosages or long exposures, especially at temperatures below 20° C. Trichloroacetonitrile is more toxic but strongly irritating. W. A. L. David. *Entomol. Research* 35, 101-12 (1944).

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New Mercuric Fungicides

Three pyridyl mercuric salts—chloride, acetate and stearate—are being commercially produced for fungicidal use including mildewproofing, by the Mallinckrodt Chemical Works, St. Louis, Mo. Among the materials which can be protected with the new fungicides are textiles, paint, lacquer, varnish, wax, leather, oils and greases.

The salts were toxic to all of the organisms tested, including those found singly or in combination in the tropics. They resist leaching by rain, especially if used in conjunction with a water repellent or one of the permanent finishes. Little loss occurs by volatilization and sunlight does not impair the fungicidal property.

Pyridyl mercuric chloride and stearate appear to have no irritating effect on the skin in concentrations which are effective in preventing growth of fungi. Chem. & Met. Engineering 51, No. 12, 138 (1944).

Standard Pyrethrum Extract

Pyrethrum extract in a petroleum oil having a specific gravity of 0.862, viscosity Redwood 1 at 21° C., and an unsulfonated residue of 99.2 per cent, was used as a standard in the biological evaluation of commercial pyrethrum-heavy oil preparations. The solution was standardized for color, resin content and equal proportions of pyrethrins I and II. Addition of pyrocatechol at a concentration of 0.25 per cent in ether, to the standard oil preparation stabilized the pyrethrins for months. In heavy petroleum, oil, pyrethrin I approximately equalled pyrethrin II in toxicity to the red flour beetle, *Tribolium castaneum*. In an aqueous medium, however, pyrethrin II was much less toxic. J. T. Martin. *Ann. Applied Biol.* 30, 293-300.

Anabasine in Mosquito Control

The preparation of anabasine sulfate aerosol by kerosene-lamp heating is much more time consuming than the usual lime method. In buildings which are not hermetically sealed, the results of treatment are not satisfactory. The aerosol method possesses obvious advantages over the older procedures. V. M. Zhukov. *Med. Parasitol. Parasitic Diseases* (*U.S.S.R.*) 11, No. 5, 48-50; through Chem. Abs.

Inert Dust Insecticides

Inert dust insecticides are effective by means of a physical rather than a chemical process. Dusts do not penetrate into the respiratory system although large quantities are ingested. Effective insecticidal dusts increase the rate of evaporation of water to the air. The relative killing power of different dusts parallels their evaporation-promoting capacities. Inert dusts kill insects by inducing desiccation.

Particle size and hardness are important but not the only factors. Effective action increases with decreasing particle size from 10 microns to 2 microns; the latter is a maximum size for killing action. Materials softer than calcite are ineffective. The method of preparation is also important. Some dry-ground powders are inferior to some wet-ground powders.

Inert dusts such as quartz, silicon carbide, alumina, preciptated silica, charcoal, etc., which were effective against the granary weevil were also effective against larvae and adults of a number of insects that infest stored products. The order and magnitude of effectiveness varies from species to species but the mechanism is promotion of evaporation leading to death by desiccation. Unlike the action on adult Calandra, such highly absorbent dusts as charcoal are much more effective on larvae than are mineral powders. P. Alexander, J. A. Kitchener and H. V. A. Briscoe. *Ann. Applied Biol.* 31, 143-9, 150-6, 156-9 (1944).

Review of Cetylpyridinium Chloride

A review of the literature on cetylpyridinium chloride has been made and the physical properties, compatibilities and incompatabilities of this antiseptic material are summarized. Bacteriological action, pharmacological action, disinfecting action, and action in the mouth are discussed. Reprints are available. C. Lee Huyck, American Journal of Pharmacy, Vol. 116, No. 2, February, 1944.

Air Sterilization

Tests were made in 8 dormitories, each approximately 120 feet by 30 feet by 9 feet high, and housing about 80 men. Four dormitories were used as test spaces and four as controls. Triethylene glycol and water vapor were distributed by means of a duct system. Doors and windows of the test rooms were kept closed as far as possible, and the glycol vapor was added to all air entering the duct. Not less than 25 cubic feet per minute of outside air per individual was admitted, and an average concentration of 0.002-0.003 mg. of triethylene glycol per liter of air was maintained, with an average relative humidity of 35 per cent. Occupants of test rooms experienced no discomfort, and a noticeable reduction of air-borne infections was indicated by the hospital records. B. H. Jennings, E. Bigg and F. C. W. Olson. *Heating, Piping, Air Conditioning* 16, 538-45 (1944).

Control of Wheat Insects

A 46-page bulletin (No. 275) issued early this year by Oklahoma Agricultural Experiment Station, Stillwater, Okla., discusses and suggests control measures for insects infesting leaves, stems, heads and roots of the wheat plant and several pests found in stored wheat. F. A. Fenton and F. F. Whitehead are the authors.

Rotenone Replacements

Substitutes for rotenone-bearing plant products and pyrethrum, are: Cryolite for rotenone-bearing materials on crucifiers and beans; nicotine for some of the rotenone in mixtures for certain aphids; calcium arsenate and cryolite for rotenone on cucurbits; 4, 6 - dinitro - *ortho* - cyclohexyl phenol for pyrethrum against potato leaf hoppers on beans; low-rotenone *Derris malaccensis* for high-rotenone materials against Mexican bean beetles and other insects. The necessity for cooperation of entomological agencies on substitutions and dosages is emphasized. Methods of application need close attention and need for research on spraying and dusting apparatus is indicated. N. F. Howard. *J. Econ. Entomol.* 37, 345-6 (1944).

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Insect Repellents

Many new types of insect repellents have recently been cited in the literature. The only thing that they appear to have in common is the property of vaporizing slowly at room temperature. In order to stand a good chance of success, a repellent should be (a) pleasant in odor and appearance; (b) effective in repelling flies, gnats, mosquitoes, etc.; (c) non-toxic and non-irritant.

Among the substances for which insect-repelling properties have been claimed are the following: diethylene glycol monoethyl and monobutyl ethers, diethyl and dimethyl phthalates, lauryl alcohol and nitrile, ethylene glycol dibenzyl and monoeugenyl ethers, hydrobenzyl salicylate, diethyl and dibutyl malates, benzyl lactate, cyclohexyl caprate and furoate, 4-fluocoumarin, 6- and 7-methyl coumarin, 2-isovalercyl-1,3-indandione and other indandiones, fenchyl thiocyanoacetate, thiuram disulfides, and dithiocarbamates. Of this group, dimethyl phthalate, used for years as a plasticizer, has found widespread use. The clear, nearly colorless liquid is repellent to mosquitoes, flies, fleas, gnats, sandflies, and chiggers, and is partially effective against ticks. Instructions for use recommend that clothing be sprayed with 2-3 ounces every five days. Applied to the skin, the repellent provides protection for 1-6 hours.

In addition to an active insect-repellent chemical, the compounder has to select the best possible type of vehicle. An oil base cannot be recommended. An alcoholic lotion has its advantages but may have too high a vaporization rate. On the other hand, too slow a vaporization rate may adversely affect the insect-repellent properties of the material. In addition, many of the substances listed are esters which may hydrolyze on long standing in an aqueous vehicle such as an emulsion, and thereby lose their activity. All of these questions require study so that the manufacturer will be in a position to produce for post-war civilian use. K. N. Richardson. Soap, Perfumery & Cosmetics 17, 905 (1944).

Insectifuge

An insectifuge containing cinnamic alcohol or its derivatives is made with aromatic or hydroaromatic sulfonates. The latter serve as solvents or dispersing agents. H. Schmidt, to Chemische Fabrik Grunau A.-G. German Patent No. 740,149; through Chem. Abs.

Methyl Bromide as Fumigant

Methyl bromide is a highly efficient fumigant against a large number of insects. It can be used for killing ground squirrels and other burrowing rodents and it also kills their fleas. M. A. Stewart. *Proc. Pacific Sci. Congr., Pacific Sci. Assoc.* 6, 153-8.

Flea Repellents

The longest average protection time of repellency against fleas was produced by a pyrethrum-N-isobutyl undecylenamide-petroleum oil mixture containing 1 per cent of pyrethrins and 1 per cent of the amide. Other effective repellents were dimethyl phthalate, Rutgers 612, and indalone, of which the former was the most active. A. W. Lindquist, A. H. Madden and C. N. Watts. *J. Econ. Entomol.* 37, 485-6.

Fly Spray

A flyspray is prepared from N-isobutyl undecylenamide 350-450 parts, pyrethrum 15-25, and octyl thiocyanate 0.2-0.5 part. H. G. Guy and A. H. Goddin, to E. I. du Pont de Nemours & Co. U. S. Patent No. 2,347,260.

Mosquito Control in Shelters

Mortalities of 100 per cent of adult *Anopheles maculipennis* Mg, *Aedes caspius* Pall. and *Culex pipiens* L. were given by test sprays and dusts. Sprays containing 0.5 per cent of soft soap plus 1 per cent of formalin, or 0.5 per cent of hard soap plus 2 per cent of crude alcohol extract from steeping pyrethrum residue in gasoline, were recommended for treatment of barns, etc. Dusts consisting of pyrethrum alone or with wood ash 1:1, were recommended for living quarters. A. R. Prendel. *Med. Parasitol.* (U.S.S.R.) 9, 637-8; through Chem. Abs.

SO_2 as Household Fumigant

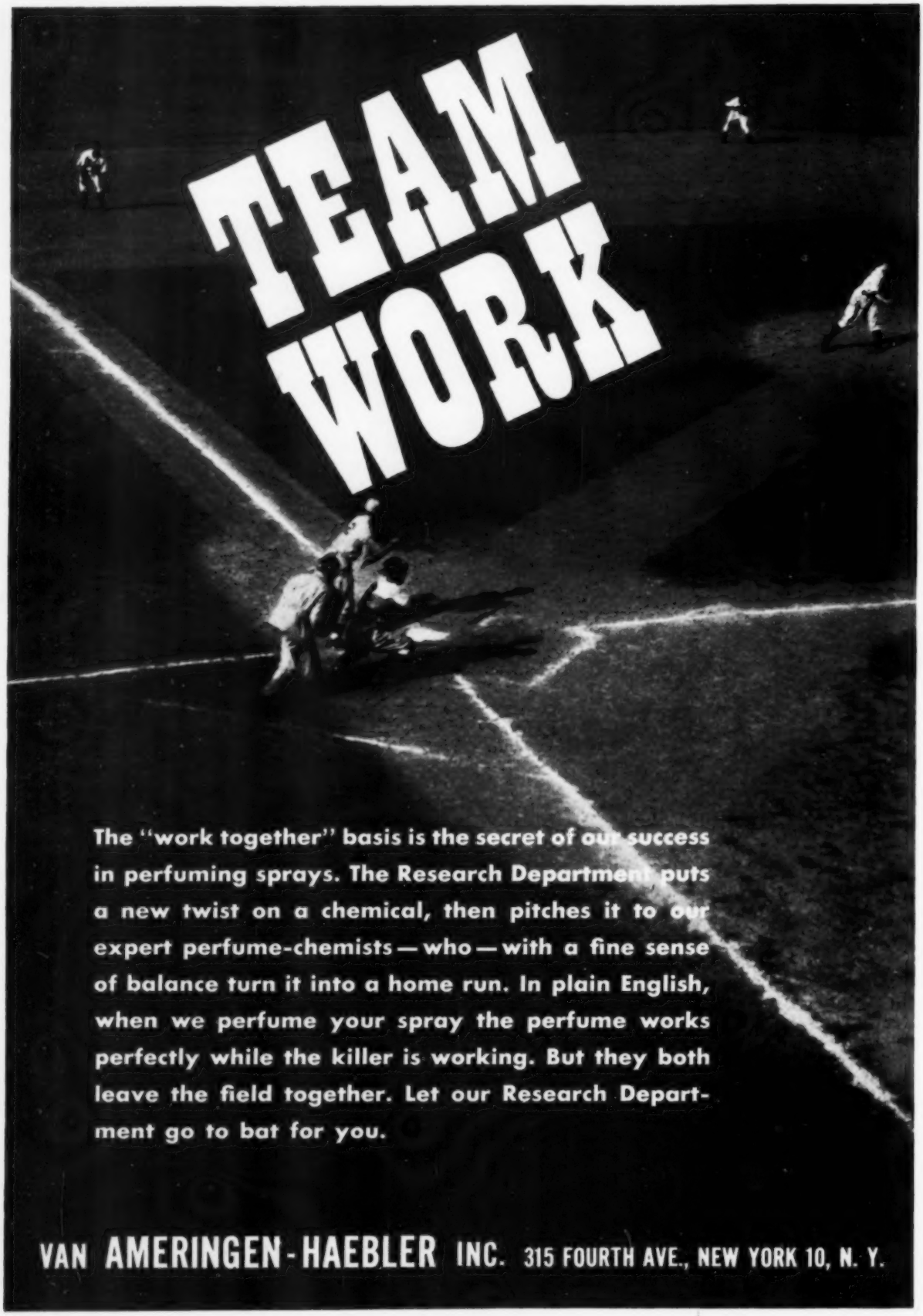
Sulfur dioxide has many desirable qualities as a household fumigant. It forms an addition compound, C_3H_6O,SO_2 with acetone, which is a liquid. The vapor pressure of this compound is such that it can be confined in ordinary tin containers. When exposed to the air the compound decomposes and becomes progressively volatile.

The compound itself is non-inflammable. Mixtures containing more than 75 per cent of acetone would not be safe for use as a fumigant. For room fumigation the mixtures were absorbed in diatomaceous earth pellets and a determined quantity exposed in a room containing the test insects.

The equimolecular ratio of sulfur dioxide to acetone (mixture A) and the 1:1 volume ratio (mixture B) make good household fumigants. Mixture B is somewhat better than A because it contains a larger proportion of sulful dioxide, has a smaller volume per pound, and a higher and narrower range of inflammability. However, it is slightly more volatile than A. The dosages are: 1.2 pounds of A and 1 pound of B per 1000 cubic feet for all stages, including eggs, of the bedbug in 15 hours; 1.5 pounds of A and 1.2 pounds of B for the confused flour beetle (*Tribolium confusum*) and adult carpet beetles (*Anthrenus scrophulariae*). Carpet-beetle larvae require twice the bedbug dosage. Length of exposure is more important when smaller doses are used. No injury to wallpapers, colored clothes, painted surfaces or metals, resulted from the use of these mixtures. E. M. Swisher. *J. Econ. Entomol.* 37, 694-7.

Rotenone from Peru

Shipments of barbasco for 1944 from the port of Iquitos, Peru, should exceed 4,000,000 pounds. About 2,500 acres are planted to barbasco around the little Amazon town of Lagunas, in Peru's upper Amazon country. Growing of rotenone-bearing plants is being encouraged in other areas of tropical America, with the assistance of the U. S. *Chem. Trade J. & Chem. Engineer* 115, 313 (1944).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The Way It Looks *in* Washington

By
C. H. JENKINS

WASHINGTON—The situation is reported currently to be more hectic in Washington than for many months past. Instead of the progressive easing of restrictions to which industry had become accustomed in recent months, some of the discarded restrictive orders are being revived, and there is a definite prospect that new restrictions may be necessary on some materials.

The mistaken impression has somehow made its way around that with the coming of V-E Day many restrictions on soap and sanitary prodducts manufactureres might be relaxed. This view is definitely wide of the mark. After the European war is won, the prospect is that American manufacturers will be called on for more rather than less production of soaps, glycerine, etc., to meet the needs of relief and rehabilitation. Whether or not we will have the material to supply seems rather questionable in view of the many tight raw material situations. But it seems rather obvious that present restrictions will have to be kept in effect for a considerable period.

The best long-term prospect of relieving the current American fat shortage would seem to be the renewal of substantial imports of coconut oil from the liberated Philippines. But those in best position to judge the future outlook say that we cannot hope for much relief from this direction before 1946 at the earliest.

Glycerine Stocks Dropping

Bureau of the Census reports show a rather disturbing declining trend in glycerine stocks. They have fallen steadily for the past eight months,—from a level of about 96 million pounds to the current figure of 80 million pounds. The decline in February alone was 5 million pounds. While present stocks of 80 million pounds are still rather generous, the continuous declining trend has Washington watchers rather concerned. It would seem obvious that non-essential civilian consumption should not be encouraged, and the present would seem distinctly not the time for aggressive sales promotion.

Restrict Fatty Acid Inventories

New controls were put into effect by WFA on April 1, restricting the size of inventories of fatty acids, stearic acid, distilled red oil, and animal oil. The new WFO-87, covering fatty acids, limits users located east of Montana, Wyoming, Colorado, and New Mexico to a 30-day supply at current rates of consumption. Users in those states and west of them are allowed a 45-day supply. Similar restrictions cover stearic acid (WFO-129) and distilled red oil (WFO-53). On animal oil (WFO-128) a 60 day inventory or 60,000 pounds, whichever is greater, is allowed.

Tighten Collapsible Tube Rules

Restrictions have been further tightened on collapsible tubes. Under M-115, the revised order, no tin or lead tubes may be used for shaving cream for civilians. Aluminum tubes may be used only up to 25 per cent of the total collapsible tubes of all kinds used in the corresponding quarter of 1944.

Restrict Tallow Inventories

WFA has just announced the tightening of inventory restrictions on tallow and grease. Beginning May 1 soap makers were required to restrict their inventories of inedible tallow and grease to one-third (instead of the former allowance of 5/12) of the quantity they used during the last six months of 1944. The new amendment (7) to WFO-67 also requires producers of inedible tallow and grease to fill

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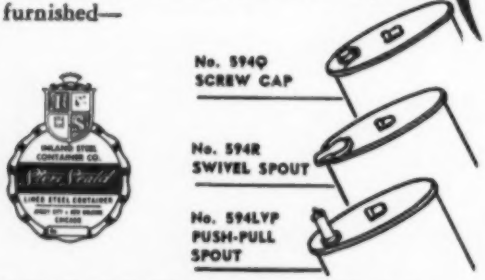

INLAND STEEL CONTAINER CO.

Container Specialists

6532 S. Menard Ave., Chicago 38, Ill.

Plants at:
CHICAGO • NEW ORLEANS • JERSEY CITY

"Our customers continue to buy..."

Rexglo-X

Writes California Distributor

"Enclosed find our order for two 55 gallon drums of Rexglo-X Floor Finish. Our trade is well pleased with your product, as is attested by their repeat orders. The long wearing quality, resistance to water, and non-slip finish has well satisfied our customers. Our tests before buying Rexglo-X proved satisfactory. In turn our customers backed up our judgment with their continued purchase of your product."

Here's a new treatment that's tougher, more durable than anything you've ever seen! Dries almost instantly to a rich, high luster which may be converted to a brilliant gloss by polishing, if desired. Non-slippery. Immediately waterproof. Unlike ordinary treatments, Rexglo-X is not soft, sticky or brittle, does not scratch. Scuff marks are easily wiped out with machine polishing or a yarn dust mop. Traffic lanes are readily touched up without showing overlaps. Applied with either a sheepskin applicator or string mop.

Recommended for linoleum, asphalt tile, composition flooring, varnished, sealed, shellacked or painted wood, marble, terrazzo, tile, rubber, and painted or "raw" cement. Has many other important war-time uses . . . such as reducing friction on airplane wings and fuselages, protecting shell cases, etc. Priced right for profitable selling.

Write for full details and free sample

CONTINENTAL CAR-NA-VAR CORP.

Specialists in Treatments for Large Floor Areas

1606 E. National Ave., Brazil, Ind.

"certified" (non-soap) orders up to 50 per cent, instead of 30 per cent, of their current production.

Metal Cans Further Restricted

Restrictions on metal cans under Can Conservation Order M-81 have been further tightened. Can manufacturers who make food cans and military cans have been advised by WPB that they will not be able to order steel plate for containers for a list of non-food products which includes liquid soap. An even tighter supply situation on metal cans for liquid soap packaging may thus be anticipated.

Rule on Shampoo Tax

A recent ruling by the Commissioner of Internal Revenue on the tax status of shampoos merits study. Previously the only shampoos subject to the 20 per cent federal excise tax on toilet preparations have been those containing less than 5 per cent of saponaceous material. Now any shampoo is subject to the tax, regardless of saponaceous content if (1) it is recommended in advertising matter or (2) if it contains ingredients rendering it suitable for waving, straightening, bleaching, dyeing, tinting, or otherwise imparting an artificial color, luster, or other artificial appearance to the hair.

Clarify Rosin Order

WPB officials have been busy in recent weeks answering questions regarding the new rosin order (M-387). Some soap makers have been under the impression that rosin restrictions would not apply on such products, as for instance, soap delivered to a textile processor for the processing of textiles to be delivered to the Army or Navy. They were wrong! The rosin restrictions do apply, even though the soap is to be used on an end product which is definitely a war material. Rosin restrictions do not apply, however, on soap used for non-detergent purposes, such as soap for use in making synthetic rubber.

Clarify Soap Inventory Rules

Soap inventory restrictions covered in amendment 4 to WFO-42b have been clarified in a series of unofficial interpretations phrased by WFA and distributed by the Association of American Soap & Glycerine Producers. Copies are available through the association office.

Talc Consumption Higher

Consumption of talc this year is expected to reach a total of 240,000 tons, members of the Talc Industry Advisory Committee were told at a recent meeting in Washington by representatives of the War Production Board. This represents a gain of 20,000 tons over 1944 figures. The heightened demand for talc reflects increased use in a number of products such as insecticides, paint, paper, rubber, roofing, etc. Production of talc dropped to about 320,000 tons in 1944, and inventories have been seriously depleted. A recent amendment to order M-239 is designed to channel critical grades of talc into most essential war needs such as camouflage paint.

Urge New Metasilicate Controls

Producers of sodium metasilicate are reported to have recommended to WPB at a recent meeting that allocation of this important detergent raw material be reinstated. Military and civilian requirements have continued to increase, producers report, while manpower shortages have made it impossible to maintain the production rate of 10,000,000 lbs. per month which was reported last fall. A new allocation order is expected to be issued shortly.

Moth Use for Para Not Banned

Correction . . . comment last month by Preston Peaker that paradichlorobenzene is "banned" for use in moth products, deodorizing blocks, etc., in fact all purposes except for the armed forces and agriculture, under WPB Order M-340, was a trifle strong to say the least. Actually, the order is being interpreted to mean that the armed forces get all they want first, —and at present this is amounting to a very tidy tonnage,—and then agricultural uses, which are very small, have next preference. After that, any para which is left, is being distributed pro rata to the sanitary products manufacturers for their customary uses. But there is no "ban" on its use in moth products, deodorizing blocks and the like, even though the tonnage available for such purposes right now is very limited.

Soap Scarce in Cuba

Soap is a very scarce article in Cuba, according to recent newspaper accounts from Havana. Guest size cakes are selling for 50 cents each in the black market, one observer reported. He told of seeing the woman proprietor of a small shop open up a case of soap one day, then step to the street and yell, "Soap, Soap." Within five minutes, he said, 50 persons were lined up to purchase a piece. Men and boys, it was stated are touring small stores to buy up soap on a speculative basis, resulting in a government order that soap be sold only to women.

Ease "Freon" Controls

The War Production Board has announced a liberalization of controls on "Freon" gas in view of the improved supply position. Two new plants for the production of "Freon" have recently gone into operation. As a result the WPB is now able to release "Freon" for air conditioning uses by 23 broad groups of users who had previously been barred from using it.

PACKAGING — A STEPCHILD

(*From Page* 102)

own products, but can't recommend materials impartially or spend but a fraction of the time necessary for an adequate solution.

In the final analysis the problem is one which demands an intelligent program, carefully planned and checked by a packaging expert working closely with management. Such a program might well include the following phases:

(a) Approach your packaging problems as you would any other major problem of your business.

(b) *Put it in the hands of an expert.* Create a new department head as a new function or tool of management.

(c) Set up a long range package design program as a business engineering problem—remembering that there are apt to be more intangibles and imponderables in it than in many of your other problems.

(d) Cease treating your package as a stepchild.

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of your UNPERFUMED insecticide

Make use of our extensive laboratory facilities and expert perfume technicians in the selection of the correct perfume for your insecticides.

We know your hands are full with many complex problems at this time. Perfume selection is one of the problems we will gladly work out with you.

Send us a quart of your unperfumed insecticide and we will return it perfumed with several scents which were especially designed to cover and mask the odor of the insecticide raw material.

Give us your perfume cost per 100 gallons and we will do the rest.

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Essential Oils — Perfume Materials — Aromatics

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CONCENTRATED
LIQUID SOAP
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SOAP
ALL CONCENTRATIONS

LIQUID OIL
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NO RUBBING LIQUID
FLOOR WAX
FEDERAL SPECIFICATION P-W-151A
HEAVY DUTY

BULK — PACKAGE — PRIVATE LABEL

PRIVATE LABEL PACKAGING IN MASS PRODUCTION LINES A SPECIALTY

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Just 3 Units to PEER

Result — A Soap Dispenser that Works. There is nothing complicated about PEER. It is of simple construction consisting of only 3 units — A properly constructed heavy flint glass globe . . . A rigid, rugged metal or plastic bracket . . . A sure-action leak proof mechanism.

Write for folder and prices. Prompt deliveries.

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Manufacturers of Soap Dispensers and Dispensing Equipment

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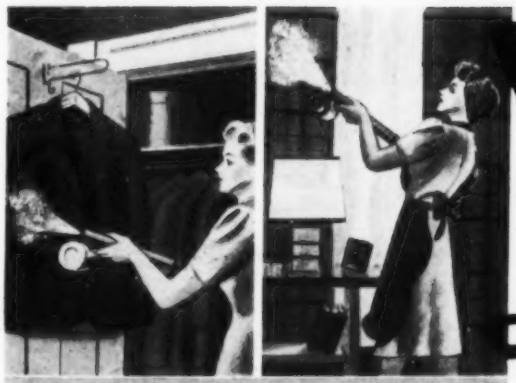

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FULL FLOATING

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Insecti-sol

. . . all the sticky, smelly fractions removed—to produce an insecticide base so free-floating, pure and crystal clear it can be sprayed on delicate fabrics without danger of stains or spots—yet will float longer, penetrate deeper and maintain maximum toxic action. For a really satisfactory insecticide of highest quality—specify Penn-Drake Insecti-Sol.

MOTHICIDE

Penn-Drake Odor-Free Naphtha is also a super-fine base which provides a more permanent dependable Mothicide. Write Dept. 109 for complete details on Penn-Drake products for Pest Control.

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(sodium metasilicate) for laundries, metal cleaning and compounding.

METAPLUS

for metal and textile cleaning. Will replace T. S. P. to advantage in compounds.

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for driveways, runways, garage and factory floors, grease pits, etc.

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for dish washing machines and all spray washing machines.

CONCENTRATED SOAP POWDER

a concentrated soap powder for cold or hot water.

VAPOR CLEANER

for pressure type steam cleaning machines.

Our line of Basic Cleaning Chemicals and Compounds is priced for Profitable Repeat Business

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FEDERAL SELF POLISHING WAX

There is a bigger demand, than ever, for top quality floor wax. Avoid complaints by supplying your customers with the very best.

Federal self-polishing wax has exclusive outstanding qualities. It has maximum lustre — provides a tough, hard film that stands up remarkably under severe traffic. This wax has highest resistance to water and washing. It spreads far and remains beautiful far longer than ordinary waxes.

There is more satisfaction, better profit and steady repeat business when you sell Federal.

LIGHTNING LUSTRE WAX BASE SOAP CLEANER

Cleans the floors while it seals the pores. For all types of floors and all painted, enameled and varnished surfaces, tile or metal.

Leaves a thin wax film in the pores and on the surface. Gives added protection against wear.

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Phenyl Ethyl Alcohol
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For Soaps, Perfumes, Cosmetics, etc.

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A Message to
MANUFACTURERS OF SOAP AND SANITARY CHEMICALS

Send for this
NEW CATALOG OF SYNTHETIC ORGANIC CHEMICALS

MANY of the products listed represent the newest developments in the field of surface active chemistry.

INDEED, these should be the key to the solution of many of your manufacturing and production headaches. Likewise, they should lead to an earlier initiation of your post-war plans.

THIS unusual catalog also contains the latest information on *Emulsifiers — Emulsions — Emulsification.*

WRITE FOR A COPY TODAY . . . Address the Emulsol Corporation or any of the following authorized representatives:

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Tops in Quality!
SELF-POLISHING
FLOOR WAX

- ★ DRIES TO A HIGH LUSTRE!
- ★ BECOMES MORE BRILLIANT WITH USE!
- ★ LONG WEARING!
- ★ WATERPROOF!
- ★ MINIMUM SLIP!
- ★ NON-TACKY!

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We are Specialists in self-polishing floor waxes ranging from 12 to 18% solids content, to suit your every need.

SPECIAL TRIAL OFFER

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Makers of —

WAX SOAP CLEANER	FURNITURE POLISHES
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SOAP FLAKES, POWDERS, COMPOUNDS
FOR MOST INDUSTRIAL USES
DISHWASHING AND GLASS CLEANERS

NATIONAL MILLING & CHEMICAL COMPANY

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THESE ARE NATURE'S
FIXATIVES
A touch of the paw, a brush of the fur leaves its distinctive odor. Like a penciled line on a map.
NATURE made scents before Man thought of Perfume.
Did it in her own inimitable manner.
She made them —to STAY
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AND PRIVATE LABEL BUYERS

YOU PAY NO MORE FOR THE BEST LIQUID TOILET SOAPS AND SHAMPOOS FROM **"HAAG."** WHY NOT GET THE BEST?

HAAG
COCO-CASTILE
LIQUID SOAPS AND SHAMPOOS

have everything demanded by the most critical buyers, and are now being packaged and distributed by SOME OF THE LARGEST DISTRIBUTORS, AFTER HAVING PASSED THEIR MOST RIGID LABORATORY TESTS.

QUALITY: Made from a special blend of the highest-grade cocoanut oil obtainable, and other pure bland oils, prepared to exacting standards of quality and uniformity by graduate chemical engineers. Absolutely neutral in action, containing no harmful free alkali.

CLARITY: A sparkling, crystal-clear product is assured even at low temperatures. Every batch is thoroughly refrigerated and filtered while cold.

LATHERING PROPERTIES: Lathers profusely and cleanses thoroughly. The correct blend of cocoanut oil insures highest lathering qualities, giving rich, lasting suds.

BLANDNESS: The addition of other pure, bland oils of an olive nature, cuts down the harshness associated with straight cocoanut oil shampoos, and insures a pleasant, velvety effect on the most tender scalp.

COLOR & PERFUME: New, improved formulae now produces a very light-colored product, comparable to the best pre-war shampoos. Furnished uncolored, opalescent or amber, as desired. May be had unscented—suitable for perfuming by the distributor—or furnished scented with lemon or bouquet.

Also manufacturers of SURGICAL SOAPS, LIQUID FLOOR CLEANSERS, VEGETABLE OIL JELLY SOAPS, DISINFECTANTS, POLISHING CLOTHS, LIQUID METAL POLISH and ALLIED SPECIALTY PRODUCTS.

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Mfrs. Sanitary Chemical Products for the Wholesaler

6101-6109 S. May St., Chicago 21, Ill.

Ready Mixed Ready to Use
PER-MO
RAT-BITS

MADE WITH
FORTIFIED RED SQUILL
KILLS RATS, MICE, MOLES
NON-POISONOUS
TO HUMANS, PETS, DOMESTIC ANIMALS
MAKE BIG MONEY
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Every Home and Business wants this SAFE-TO-USE, effective RED-SQUILL rat bait. SELL it under our name or YOUR OWN NAME. You'll sell it FAST in BIG AMOUNTS. It does its job—Steady CASH for YOU! Order your supply today!

PACKED IN 3 oz., and 16 oz. paper cans, or in bulk.

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PER-MO
2 WAY RAT AND MICE LIQUID

USE AS A DRINK OR MIX WITH FOOD BAIT

Rats and mice destroy over $200,000,000.00 worth of food stuffs and property in the U. S. every year.

One pair of rats breed from 6 to 10 times a year and can produce 1,200 descendants in one year.

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PER-MO
Mothproofing Liquid

THE GUARANTEED MOTHPROOF LIQUID.
DRY CLEANING HAS NO EFFECT ON
PER-MO MOTHPROOF TREATMENT.

AS PER-MO HAS NO ODOR AND WILL NOT SPOT OR STAIN, IT APPEALS TO THE PUBLIC DUE TO THE FACT THAT IT CAUSES NO INCONVENIENCE WHILE MOTH-PROOFING FURNITURE, RUGS OR CLOTHING IN THE HOME, APARTMENT OR HOTEL ROOM.

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TRADE NEWS . . .

Sobell Resigns at Watkins

Dr. Otto Sobell, associated with the J. R. Watkins Co., Winona, Minn., for the past three years and for the past year technical director of the company, resigned on April 15. He has not announced plans for the future as yet.

New Insecticide Sprayer

A new type atomizer for which patents have been filed is reported to have been developed by researchers of the Bureau of Entomology & Plant Quarantine at Orlando, Fla. The atomizer which is indicated to be used as a replacement for aerosol bombs will give effective insecticidal results with the use of one-half cc of a 20 per cent DDT solution for 1,000 cubic feet of space. The atomizer is stated to have been developed by H. A. Schroeder and A. W. Lindquist. U. S. Patents have been filed by the U. S. Department of Agriculture under Solicitors No. 1800.

Gans Joins Quaker Chemical

David M. Gans, formerly assistant director of Interchemical Research Laboratories, New York, resigned from that position recently to become technical director of Quaker Chemical Products Corp., Conshohocken, Pa. He succeeds Dr. Johan Bjorksten who recently set up his own research organization. Dr. Gans had been at Interchemical Research Laboratories since 1937, and before that worked at the United Color Co. division of Interchemical Corp., in Newark, N. J., for about two years. Previous to that he had been on the staff of the chemistry department of the University of Chicago, where he had taken his three degrees.

Bevernick V. P. of Prentiss

R. J. Prentiss & Co., New York, importers and processors of botanical drugs, chemicals and insecticides, announce the election of A. W. Bevernick, as vice-president of the company. Mr. Bevernick joined the Prentiss organization in 1934 and has served as western mangear for the past ten years. He has a wide acquaintance

A. W. BEVERNICK

in the stock remedy, botanical drug and chemical trades throughout the country. Mr. Bevernick will continue in Chicago with offices at 9 South Clinton Street.

New Louse Spray

A revised formula for delousing prisoners of war and refugees, now being used extensively in the European theatre by the Army on German prisoners and foreign laborers, is reported to have the following composition: benzyl benzoate, 68 per cent; benzocaine, 12 per cent; DDT, 6 per cent; sorbitol monolaurate, 14 per cent. The product is effective not only against body lice but also scabies and other parasites and is understood to represent results of the latest research at the Bureau of Entomology & Plant Quarantine at Orlando, Fla.

Rolstead Joins Mich. Chemical

Marvin J. Rolstead, connected with a number of insecticide firms over the past 15 years, and more recently with Geigy Co., New York, has joined Michigan Chemical Corp., St. Louis, Mich., as manager of the insecticide division, the company announced recently. Michigan Chemical Corp. is actively engaged in the manufacture and marketing of DDT insecticidal concentrates and methyl bromide. Firms with whom Mr. Rolstead has been connected in a sales capacity include: McLaughlin, Gormley, King Co., Minneapolis, Rohm & Haas Co., Philadelphia, U. S. Industrial Chemicals, Skol Co. and Geigy Co., all of New York. He contributed to the work of developing insect repellents for the armed forces.

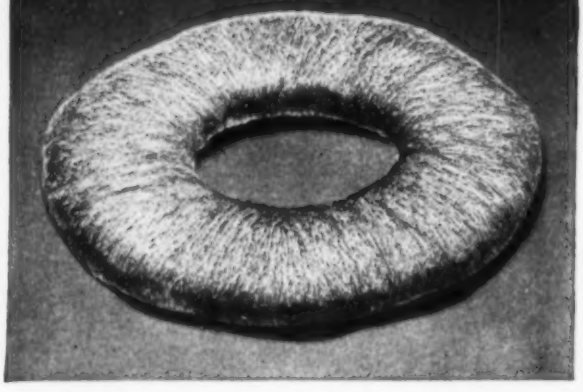
DDT Toxicity Discussed

Although DDT is toxic to humans "the toxicity is of sufficiently low order to permit the use of DDT without danger to personnel if reasonable precautions are taken," Herbert O. Calvery, of the Food and Drug Administration, Washington, D. C., declares in an article in the April 1945 issue of *The Food Packer*. In addition, Mr. Calvery points out, "to date we have not seen a case of anyone poisoned by DDT." After discussing various experiments made with animals receiving DDT by injection and mouth feeding, Mr. Calvery, in his article "DDT Is Poisonous," concludes: "Considering the weak dilutions proposed, the usual spraying and dusting household procedure is relatively safe. Use of aerosols in the usual sense would be safe. I believe the use of fly sprays containing DDT is safe for household use when the usual precautions are taken. If some powder falls in a dish there is no acute danger—for a single time with small quantities."

Seeks Manufacturers' Data

Stanley Industries, 13401 24th Ave., S., Seattle 88, Wash., manufacturers and distributors of rodenticides and agricultural and household insecticides, are asking manufacturers of equipment and chemicals used for these products to send them their latest booklets, catalogs and prices. Stanley Industries office and rodenticide factory were destroyed in a fire recently, in which their data, particularly in the form of books, pamphlets and prices on insecticide and rodenticide raw materials were also lost. A new plant with greatly increased capacity has been built and operations are about back to normal, according to a letter from the firm.

Sun Ray's Radial Strands Work Faster!



Safer Floors at Less Cost

All strands of Sun Ray Woolers are radially placed so that they constantly rotate at right angles to the work. This patented feature means quicker removal of excess wax and more efficient hardening of the wax film. The resulting finish is virtually slip-proof.

Sun Ray Woolers clean, dry-scrub and polish in one operation, regardless of whether the floor is wood, linoleum, rubber or mastic. They can be successfully used with a fibre brush on all disc-type floor machines. You'll save time and money with Sun Ray Woolers!

Simply lay the Sun Ray Wooler on the floor, tilt the machine and wheel it into position over the wooler, allowing brush to rest centrally on the pad. That is all there is to it—with *any* disc-type floor machine.

Sun Ray

Steel Wool Products

THE WILLIAMS COMPANY, LONDON, OHIO

The Williams Company, London, Ohio SS 5

Send literature showing how Sun Ray's radial strands save time and money and make floors safer.

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COAL TAR CHEMICALS

...for the Soap and Disinfectant Industries

CRESYLIC ACIDS

● Reilly produces the entire range of Cresylic Acids—in standard grades or to buyers' specifications.

CRESOLS—U. S. P., Meta Para, Ortho and special fractions—to all specifications. In drums or tank car quantities.

XYLENOLS—Low boiling, high boiling and symmetrical Xylenols—in tank cars and drums.

TAR ACID OILS—In all grades, from 10% to 75% tar acid content, or of specified phenol coefficiency, carefully blended. In 55-gallon drums and tank cars.

NAPHTHALENE—Crude and refined prime white Naphthalene, in chipped, crystal, flake and powdered form. In 250-lb. barrels and 50-lb. fiber drums.

Send for your copy of this booklet (second edition) describing REILLY Coal Tar Chemicals.

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- 500 Fifth Ave., New York 18, N. Y.
- 2513 S. Damen Ave., Chicago 8, Ill.

Labeling DDT Insecticides

THE following bulletins dealing with the labeling of insecticides containing DDT has just been released by the War Food Administration, Office of Marketing Services, Washington 25, D. C., over the signature of W. G. Reed, chief of the Insecticide Division, Livestock and Meats Branch.

The term "DDT" refers to the technical grade of 2,2-bis (parachlorophenyl) 1,1,1-trichloroethane, which contains as impurities considerable amounts of isomers and much smaller amounts of other by-products formed in its manufacture. So far as we are now aware, the normal impurities in DDT are active ingredients within the meaning of the Insecticide Act of 1910. Therefore, its label is not required to bear an ingredient statement.

When DDT is applied as an insecticide, it is mixed or compounded with other materials to make it suitable for application. If all of the ingredients are active, no ingredient statement is required to appear on the label, but if any of the added ingredients are inert—that is, if any of them are not in themselves insecticides for the purposes intended—the label is required to bear the name and percentage amount of each and every inert ingredient or, in lieu of this, the name and percentage amount of each and every active ingredient, together with the total percentage of the inert ingredients. The ingredient statement is required in the case of shipments of insecticides intended for experimental use, as well as those made for commercial use.

There is at the present time no practical method of determining all of the different compounds in DDT. In view of this, no obection is raised to considering dichloro diphenyl trichloroethane (which includes 2,2-bis (parachlorophenyl) 1,1,1-trichloroethane and its isomers) as the active ingredient. For a preparation containing DDT as its only active constituent, the following form of ingredient statement, which should appear prominently on the front panel of the label, will be acceptable:

ACTIVE INGREDIENT
Dichlor diphenyl trichloroethane . . . %

INERT INGREDIENTS . . . %
Total 100%

the correct values to be inserted in the blank spaces. If other active ingredients are present, the ingredient statement should be changed to show their names and percentages.

The amount of DDT which has been available for experimental work in agricultural and civilian fields has been limited and even now it is restricted to experimental use. The Bureau of Entomology and Plant Quarantine and entomologists have not issued recommendations for commercial use; therefore, we are not in position to indicate any directions for use which would be acceptable under the provisions of the Insecticide Act. There is no provision in the act which prohibits the appearance on the label of recommendations for use which are not false or misleading but none should be made unless based on the results of adequate tests to determine not only its efficacy but also the harmful effects, if any, that it may have when used as directed.

The Insecticide Act does not require poison labeling but since the use of DDT involves certain hazards, products containing it must not be labeled so as to state or imply that they are safe or nonpoisonous. Furthermore, it is desirable that the labels of insecticides containing DDT bear a caution to avoid personal injury. Such caution should provide for avoiding skin contact, avoiding inhalation of the dust or spray, and keeping the material from all contact with foods. The caution statement should be set out prominently so that it will come to the immediate attention of the user.

—•—

Appraise Post-War DDT Sale

An appraisal of the possible post-war market for DDT insecticides appears in the April 27, 1945, issue of *Printers' Ink*, in an article by Elsie Johns entitled "DDT Approaching Merchandising Phase." The article reports that DDT is now getting its first homefront test in a campaign started in Charleston, S. C., April 1 for the eradication of the anopheles mosquito. Johns predicts a large post-war market The project is said to involve some 40,000 Charleston dwellings, and will cost approximately $130,000. Miss Johns predicts a large post-war market for DDT insecticides among farms, institutions and mosquito eradication projects. Her article provides some very interesting speculations as to possible developments in the DDT patent situation, and also as to possible post-war products and marketers.

—•—

"Skunkadora" for Rat Odors

Sparhawk Co., Sparkill, N. Y., manufacturers of perfuming materials and repellents, have recently issued a release describing use of their deodorant "Skunkadora" in the elimination of rat odors. They suggest that the pest control operator confronted with a rat odor problem simply unscrew the cuff of the electrical fixture nearest the spot where the odor is noted, exposing the metal box carrying the electrical wires, and then spray "Skunkadora" behind the partition.

—•—

Discuss Pine Oil Use

The use of pine oil in disinfectants, detergents and soaps, textile processing, cutting oils, insecticides, etc., is reviewed briefly in the March, 1945, issue of the *Hercules Chemist*, published by Hercules Powder Co., Wilmington. Physical and chemical properties of pine oil are discussed, pine oil production summarized and a bibliography of the subject is included.

—•—

Penick Lists War Dates

S. B. Penick & Co., New York, insecticidal raw materials, have just issued a folder listing historic dates of World War II starting with the murder of Chancellor Dollfuss in 1934, and continuing through January, 1945.

NAIDM Board to Meet June 6

FOR the first time in thirty years, no mid-year meeting of the National Association of Insecticide & Disinfectant Manufacturers will be held in June, 1945. As a substitute, there will be a meeting of the Board of Governors in conjunction with committee chairmen, a group totaling 22 persons, at the Hotel Roosevelt, New York, on June 6 and 7, according to NAIDM President, Henry A. Nelson of the Chemical Supply Co., Cleveland. At the last mid-year meeting of this Association held in Chicago in 1944, over 400 persons attended. Reports of committees presented before the Board will be published in the June issue of SOAP & SANITARY CHEMICALS.

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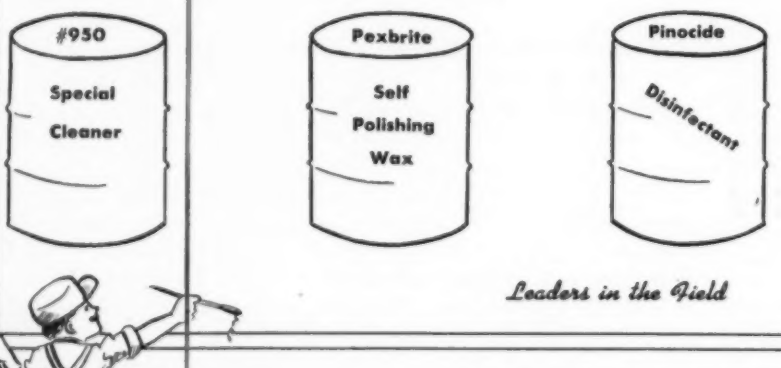

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Pyrethrum for Civilian Use

The War Production Board announced April 29 that limited quantities of pyrethrum that does not meet military specifications has been released for specific agricultural insecticide uses and for other essential civilian uses. Permitted agricultural uses are for the control of the following: Leafhoppers on beans; Cabbage loopers on cabbage, broccoli, cauliflower; Plant bugs and leafhoppers on sugar seed-beet crops; Leafhoppers on raisin grape; Leafhoppers and worms on cranberries; Leaftiers on celery; Diabrotica beetle control in California on ripening fruit; Mushroom flies.

Cite Carnauba Wax Importers

Acting upon complaints that some importers have been purchasing carnauba wax at above-ceiling prices, the OPA has obtained an injunction against Geismar & Co., 10 East 40th St., New York, to prevent payment of over-ceiling prices. OPA charged that Geismar & Co. had offered to purchase 100 tons of carnauba wax in Brazil, and had offered a 3 per cent commission on the sale which would have resulted in a payment of $4,200 over the ceiling price.

Rule on DDT Shipment

The Interstate Commerce Commission has issued list CFR 73 revising the transportation rule on dichlorodiphenyltrichoroethane (DDT) classifying the material as poison B, applying sections 352, 361 on exemptions and packing requiring a poison label, and setting a 200-pound maximum for shipment by express.

Harold Midtsgang Dies

Harold N. Midtsgang, former export manager for Commercial Solvents Corp., New York, died at his home in Rockville Center, L. I., last month.

Florida PCOs Meet

Florida Pest Control Operators were scheduled to meet April 26, 27 and 28 at the University of Florida, Gainesville, Fla. Among those scheduled to attend were Theodore Oser, president of the National Pest Control Association, and William O. Buettner, secretary. The National Pest Control Association joined with the University of Florida in sponsoring the conference.

PCO Conference at Mich. State

Michigan Pest Control Operators held a conference at Michigan State College, Lansing, Mich., April 11 and 12. Considerable attention was devoted to problems of insect identification, with Ray Hutson of the entomology department of Michigan State addressing the group on "The Principles of Insect Identification." Another speaker was J. Carl Dawson of Dow Chemical Co., Midland, Mich., who discussed "Methyl Bromide Fumigation." A dinner was held on the evening of April 12 at the Hotel Old, with William Bomby of Toronto as toastmaster. Among the speakers at the dinner were Theodore Oser, Alfred Goulet, Harold Smitter, Ray Hutson, E. I. McDaniel and William O. Buettner.

Three New NAIDM Members

The following have recently been elected to active membership in the National Association of Insecticide & Disinfectant Manufacturers: Brulin & Co., Indianapolis; Metro Products, Inc., Atlanta; and Nash & Kinsella Laboratories, Inc., St. Louis.

Booklet on Pest Control

Indiana Farm Bureau Cooperative Association, Indianapolis, has issued a new "Pest Control Booklet, No. 5," containing complete instructions for the home gardener and fruit grower and the commercial grower. Colored photos of common garden and orchard pests are reproduced with instructions for their control.

Kuzma Acquires American Wax

American Wax Company, College Point, N. Y., manufacturer of floor waxes, polishes and cleaning compounds, is now under the exclusive ownership of Andrew Kuzma. The partnership of McMahon and Kuzma has been dissolved and Edwin T. McMahon is now no longer connected with the firm.

Travellers Discontinue Wax Testing

Travellers Insurance Co., Hartford, Conn., has practically given up the series of tests which, previous to the war, its engineers had been making to determine the relative safety of slip-producing properties of floor wax and other floor treating materials. In a letter to the National Sanitary Supply Association, Chicago, W. A. Hough, assistant supervising engineer, explained that for the past three years they have found that manufacturers of floor waxes have changed formulas and varied those originally tested. Actual characteristics of any given floor wax, Mr. Hough said, have changed so rapidly that the company feels that further tests should wait until conditions become stabilized. "When our field engineer encounters a floor treating material in use," Mr. Hough explained, "if this material has not been previously tested, a sample is submitted to our laboratory, either by our engineer, by our assured, or by the manufacturer of the product, and we make the test

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without charge. Our report on this test is made to the three individuals above and it is only to our field engineers that we report the results of all tests made."

Enlist Legion Employment Aid

Leo J. Kelly, new secretary of the National Sanitary Supply Association, has suggested to members in a recent bulletin that they contact their local American Legion posts to arrange for securing as employees returning veterans who may be interested in learning sanitary engineering or the selling of sanitary products and services. Every Legion Post has a member designated as "Employment Officer," Mr. Kelly explains, who should be advised of the employment opportunities in the sanitary supply industry.

Aryldiazonium Rodenticide

Products comprising compounds containing an arylazo or an aryldiazonium group are effective for combating rodents. I. G. Farbenind. A.-G. Belgian Patent No. 445,378.

Phenolic Disinfectants

A portion of the bibliography which should have accompanied an article in our last issue "Formulation of Phenolic Disinfectants" by Paul A. Wolf, was inadvertently omitted. The additional bibliographical references are as follows:

5. H. O. Halvorson, M. Bayliss, E. J. Ordal, J. L. Wilson. Germicidal Detergents. Soap *11*, (5), 25-8 (1935).

6. E. J. Ordal, J. L. Wilson and A. F. Borg. Studies of the Action of Wetting Agents on Microorganisms. J. Bacteriology *42*, 117-26 (1941).

7. E. J. Ordal and F. Deromedi. Studies on the Action of Wetting Agents on Microorganisms. J. Bacteriology *45*, 293-9 (1943).

8. A. R. Cade. Germicidal Detergents, Synergistic Action of Soaps on the Germicidal Efficiency of Phenols. Soap *11*, (9), 27 (1935).

9. M. Bayliss. Effect of the Chemical Constitution of Soaps upon Their Germicidal Properties. J. Bacteriology *31*, 489 (1936).

10. W. A. Bittenbender, Ed. F. Degering, P. A. Tetrault, C. F. Feasley, and B. H. Gynn. Bactericidal Properties of Commercial Antiseptics. A Further Study of the Effect of pH. Ind. and Eng. Chem. *32*, 996-8 (1940).

11. E. G. Klarmann and E. S. Wright. Effect of Organic Matter on Germicidal Performance. Soap *20*, (2), 103 (1944).

12. P. A. Wolf. A Medium Containing an Acid Casein Hydrolyzate for Use in Testing Disinfectants. J. Bacteriology, In Press.

Purdue Planning PCO Course

Purdue University, Lafayette, Ind., which in collaboration with the National Pest Control Association originated the idea of conferences for pest control operators, is now reported planning a four-year university course to train specialists for pest control work. According to tentative plans the first two years would consist of the present entomological curriculum and the final two years would provide such specialized courses of training for the potential pest control operator as mechanics, wood technology, toxicology, business law, labor problems, business writing, etc. Comments and suggestions as to desirable additions to such a curriculum will be welcomed by Prof. J. J. Davis of Purdue.

PROF. J. J. DAVIS

Booklet on Insecticide Use

The United States Department of Agriculture has just issued a new 52-page booklet (Misc. Pub. No. 526) entitled "Insecticides and Equipment for Controlling Insects on Fruits and Vegetables." The authors are N. F. Howard, C. A. Weigel, C. M. Smith and L. F. Steiner. Use of such insecticide materials as pyrethrum, rotenone, nicotine dusts, arsenates, phosphorus paste, sodium fluoride, lime-sulfur, etc., are discussed and a number of common types of sprayers and dusters are illustrated. Tables give directions for mixing sprays and powders of varying toxicity. Injury to plants by insecticides is given special consideration and precautions are given as to correct use of insecticides.

American Home Sales Rise

American Home Products Corp., Wilmington, Del., reported gross sales for the first quarter of 945 amounting to $30,009,000. Sales were 19 per cent above the 1944 first quarter and 49 per cent higher than the 1943 first quarter. Figures were given by Knox Ide, president, at a meeting of the stockholders recently. In discussing postwar plans, Mr. Ide mentioned the insecticide DDT for household use as one of the products on the list being readied for the corporation's six operating divisions. Increases ranging from 30 to 100 per cent in the size of postwar sales staffs were also predicted by Mr. Ide in emphasizing the importance of selling in the postwar period.

Demonstrate Insecticide Mortar

A new method of insecticide dispersion, employing a mortar firing a cylindrical shell loaded with insecticide, was demonstrated April 25 in Hempstead Lake State Park, Nassau County, L. I., N. Y., by J. F. Denihan of the Unexcelled Manufacturing Co., New York. Among those present at the demonstration were Dr. Robert Glasgow, New York State Entomologist, Dr. Louis Pyenson, entomologist from the New York State Department of Agriculture, and Dr. Seymour Hochberg of Columbia University.

Henry Reppa of the New York State Park Commission, who played host to the group, pointed out that one of the main drawbacks in present methods of applying insecticides to heavily wooded areas lies in carrying cumbersome applicators long distances through the woods. The new explosive, insecticide-containing cartridge is small in size (the average is 10" x 4½") and a considerable number of them can be carried by one man. They are said to be inexpensive, costing about $1.50 each. They are fireproof and are set off merely by lighting a fuse. This method of application is said to be one of the most promising methods for dispersing DDT sprays or powders.

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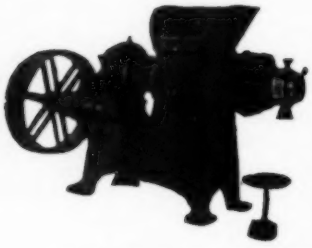

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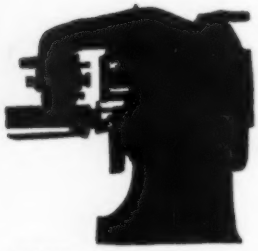

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2, 3, 4, 5 and 6 roll Granite Toilet Soap Mills.
H-A 4 and 5 roll Steel Mills.
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Proctor & Schwartz Bar Soap Dryers.
Blanchard No. 10-A and No. 14 Soap Powder Mills.
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Wanted: Soap Maker by old established firm in Pacific Northwest. Position permanent. Excellent opportunity for right man. Give full particulars as to experience. Reply to Box No. 948, care of *Soap & Sanitary Chemicals.*

Assistant Soap Maker: Young, active man wanted by Metropolitan New Jersey soap plant. Experience not as essential as willingness to work and learn. Thorough training will be given. Permanent position. Address Box No. 951, care of *Soap & Sanitary Chemicals.*

Experienced Production Man in insecticides, disinfectants, waxes, janitor supplies, etc., both package and bulk. Good salary. Located in the South. Give complete details in letter to Box No. 952, care of *Soap & Sanitary Chemicals.*

Mechanic (Maintenance) for Southern California Chemical Manufacturer, one familiar with filling, labeling and packaging equipment. Able to assume full responsibility for maintenance and upkeep of equipment. Reply giving age, experience, salary desired, etc. to Box No. 954, care of *Soap & Sanitary Chemicals.*

Chemist experienced in floor wax, exceptional opportunity for ambitious young man with aggressive expanding post-war-minded organization. Address Box No. 946, care of *Soap & Sanitary Chemicals.*

Soap Maker: Established company in Northern New Jersey offers liberal salary and permanent position to experienced soap maker. State age and experience. Reply to Box No. 950, care of *Soap & Sanitary Chemicals.*

Wanted: Soap Maker by Pacific Coast firm. Must have practical experience in boiling of kettle soap. Position permanent. State experience. Reply to Box No. 949, care of *Soap & Sanitary Chemicals.*

Soap Maker for liquid and paste soap. Permanent position with good future. Progressive concern in Great Lakes area. State experience, salary expected. Give full details in first letter. Box No. 959, care of *Soap & Sanitary Chemicals.*

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Experienced Kettleman for wax and soap. Give full particulars. Steady position. Box No. 955, care of *Soap & Sanitary Chemicals.*

Wanted: Soap Maker by old established firm in Minneapolis. Position permanent with excellent opportunities for right man. State experience. Reply to Box No. 958, care of *Soap & Sanitary Chemicals.*

Experienced Soap Maker. Upstate New York soap and chemical manufacturer wants well-trained soap maker or chemical batch processor to take over production and processing responsibilities rapidly growing new department vegetable oils, soaps, etc. Excellent post-war opportunity, current volume essential war products. New rapidly growing affiliate of century old concern. Apply by letter giving complete summary education, experience, draft status, availability, salary expectations. Genesee Research Corporation, 571 Lyell Avenue, Rochester 6, New York.

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Soap Maker, 35 years' experience in various soap lines. At present with liquid and potash soap concern. Reliable, used to full responsibilities. Looking for position with future in Chicago area. Address Box No. 968, care of *Soap & Sanitary Chemicals.*

Chemist, University graduate, single, 32 years old, six years experience in the field of industrial sanitary chemicals, self polishing waxes, soaps, disinfectants, protective coatings, specification work, production supervision, seeks new connection. Willing to go any where, now located East. Address Box No. 964, care of *Soap & Sanitary Chemicals.*

Miscellaneous

For Sale: Karl Kiefer twelve-spout rotary gravity filling machine. Newly Reconditioned. Address Box No. 953, care of *Soap & Sanitary Chemicals.*

We are desirous of purchasing Syntex "M" Beads, any quantity. Quote price and quantity available. Box No. 960, care of *Soap & Sanitary Chemicals.*

For Sale: One (1) American Marsh Company Wet Vacuum Pump and Condenser. Size 8 x 14 x 12. Lightfoot Schultz Company, Hoboken, New Jersey.

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Kettles — Large disinfectant manufacturer requires two ten thousand gallon steam jacketed kettles with maximum steam pressure 100 pounds. If you have any of this surplus equipment of this type and capacity, please send details to Box No. 971, care of *Soap & Sanitary Chemicals.*

For Sale: Package Machinery Company Automatic Soap Wrappers; Lehman 3 Roll Water Cooled Soap Mill; H. A. 6 Knife Soap Chipper; Filters, Pumps; Fillers, Labelers; Tanks; Dryers; Mixers, etc. **Wanted:** your surplus equipment. Brill Equipment Company, 225 West 34th Street, New York 1, New York.

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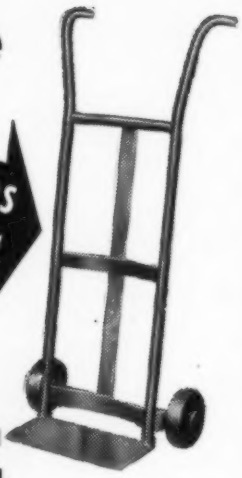

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SOAP *and Sanitary Chemicals*
254 WEST 31st STREET NEW YORK 1

A.B.C. paid subscription renewal rate for 1944—86%.

Tale Ends

SPRING is officially here! BIMS of New York have set their dates for a few informal golf tournaments for 1945 season, according to Martin Schultes of Hewitt Soap, New York chairman. BIMS of Boston are well along with their plans for 1945 golf outings, says a note from Pete Niles of Fritzsche, Boston chairman. So, clear the fairways, here comes the BIMS!

* * *

Percy C. Magnus, president of Magnus, Mabee & Reynard, Inc., New York, president of the New York Board of Trade, and long a champion of business in matters politic, is being mentioned frequently these days as a possible Republican candidate for mayor of New York City. But our guess is that he does not want the nomination and would not accept it.

* * *

Remembering the louse powder which he used in Africa and Sicily, a discharged veteran recently addressed a letter from New York to "Insecticide Powder, Body Crawling Insects, Baltimore, Md." The postmaster wrote on the letter, "Try McCormick & Co." and sure enough, the letter reached its correct destination, the desk of Dr. Amos E. Badertscher, McCormick chief entomologist. Such is fame!

* * *

Fat salvage advertising campaign has been expanded in the light of greater fat needs of soapers over the coming months. A sensible idea promptly put into action! For, not kettle capacity, but a lack of fats will be the main stumbling block to maximum soap production over the balance of 1945.

* * *

An increase in "certified" non-soap uses of inedible tallow and grease from 30 to 50 per cent of current production by WFA means actually a further cut in the available supply of these materials for soap manufacture. Before the year is out, soap is apparently going to be made from anything and everything except oils, fats and rosin.